SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
ANNUAL AIR QUALITY MONITORING
NETWORK PLAN

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INTRODUCTION

An annual review of the Air Quality Monitoring Network is required by Federal Regulations as a means to identify and report needs for additions, relocations, or terminations of monitoring sites or instrumentation. This report describes the network of ambient air quality monitors in the jurisdiction of and operated by the South Coast Air Quality Management District (SCAQMD). It includes a review of actions taken during the 2012-2013 fiscal year and plans for action in the year ahead. This plan addresses the requirement for an annual network plan as listed in Title 40, Part 58, Section 10 of the Code of Federal Regulations (40 CFR § 58.10). Regulations require the report be submitted to the U.S. Environmental Protection Agency (EPA) by July 1 of each year after a 30 day public comment period.

The SCAQMD staff, along with the California Air Resources Board (CARB), conducted an extensive review of the air monitoring sites in the South Coast Air Basin (SCAB) in late 1980. During the review, State and Local Air Monitoring Stations (SLAMS) designations, site type, and spatial scales of representativeness were assigned to the criteria pollutants monitored at each site. Since that time, the EPA Region IX and CARB staff visited selected sites to confirm compliance with applicable siting criteria and related requirements. The most recent site visits occurred in 2010 to conduct a comprehensive Technical System Audit (TSA) of the ambient air monitoring network. Each year, SCAQMD staff conducts an annual review of its air monitoring network and submits it to the EPA. The review process focuses on current and future network air monitoring strategies and network changes are made in consultation with the EPA and CARB. When re-location of monitoring sites are required, site reports are updated in the EPA's Air Quality System (AQS) to document compliance with established siting criteria for the new locations.

Public Comments

Pursuant to Federal regulations, a draft plan is made available for public inspection and comment for a period of 30 days prior to submission of the final plan to EPA. Hard copies of the final document are made available on July 1, 2013 at the SCAQMD's Public Information Desk in Diamond Bar, CA. The document is also available on the SCAQMD as of May 15, 2013 in the drop down menu under the "Community", "Air Quality" and "Air Monitoring Network Plan." (http://www.aqmd.gov/tao/AQ-Reports/AQMonitoringNetworkPlan/AQnetworkplan.htm). The final document is submitted to the EPA on July 1, 2013 along with any public comments received to fulfill Federal regulatory requirements.

Network Design

The SCAQMD operates 35 permanent, multi-pollutant monitoring stations, and 5 single-pollutant source impact Lead (Pb) air monitoring sites in the SCAB and a portion of the Salton Sea Air Basin in Coachella Valley. This area includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The newest permanent site was added during June 2010 to monitor Ozone (O3) and continuous PM2.5 for the Temecula area. The newest source Pb sites were added in January 2010 as required by EPA regulation. The Mira Loma High School (Jurupa) site was closed in May 2011 and is replaced by the Mira Loma (Van Buren) location. Table 1 provides a list of monitoring locations, the EPA AQS site codes, and the pollutants measured at each site. Table 2 provides the spatial scale and the site type for each monitor at all sites.

Table 3 describes the monitoring purpose for the monitors at each site. Table 4 describes the site type, spatial scale and monitoring purpose for continuous particulate analyzers at each site. A new requirement of the annual network plan implemented in 2007, the *monitoring purpose* is the reason why a certain pollutant is being measured at a certain site.

A list and description of monitoring purposes are provided below and portions are adapted from the CARB annual network plan for 2007.

> *Background Level* monitoring is used to determine general background levels of air pollutants as they enter the SCAB.
>
> *High Concentration* monitoring is conducted at sites to determine the highest concentration of an air pollutant in an area within the monitoring network. A monitoring network may have multiple high concentration sites (i.e., due to varying meteorology year to year).
>
> *Pollutant Transport* is the movement of pollutant between air basins or areas within an air basin. Transport monitoring is used to assess and mitigate upwind areas when transported pollutant affects neighboring downwind areas. Also, transport monitoring is used to determine the extent of regional pollutant transport among populated areas and to rural areas.
>
> *Population Exposure* monitoring is conducted to represent the air pollutant concentrations that a populated area is exposed to.
>
> *Representative Concentration* monitoring is conducted to represent the air quality concentrations for a pollutant expected to be similar throughout a geographical area. These sites do not necessarily indicate the highest concentrations in the area for a particular pollutant.
>
> *Source Impact* monitoring is used to determine the impact of significant sources or source categories of air quality emissions on ambient air quality. The air pollutant sources may be stationary or mobile.
>
> *Trend Analysis* monitoring is useful for comparing and analyzing air pollution concentrations over time. Usually, trend analyses show the progress or lack of progress in improving air quality for an area over a period of many years.
>
> *Site Comparison* monitoring is used to assess the effect on measured pollutant levels of moving a monitoring location a short distance (usually less than two miles). Some monitoring stations become no longer usable due to development, change of lease terms, or eviction. In these cases, attempts are made to conduct concurrent monitoring at the old and new site for a period of at least one year in order to compare pollutant concentrations.

Real Time Reporting/Modeling is used to provide data to EPA's AIRNOW system which reports conditions for air pollutants on a real time basis to the general public. Data is also used to provide accurate and timely air quality forecast guidance to residents of the SCAB.

Multiple purposes for measuring a pollutant at a particular site are possible. There is some overlap between site type and monitoring purposes as defined by EPA and given in Tables 2, 3, and 4.

TABLE 1. List of Monitoring Sites

	Location	AQS No.	Pollutants Monitored	Start Date
1	Anaheim	060590007	CO,NO2,O3,PM10,PM2.5	08/01
2	ATSF (Exide)	060371406	Pb	01/99
3	Azusa	060370002	CO,NO2,O3,PM10,PM2.5,SO4	01/57
4	Banning Airport	060650012	NO2,O3,PM10, PM2.5	04/97
5	Big Bear	060718001	PM2.5	02/99
6	Burbank	060371002	CO,NO2,SO2,O3,PM10,PM2.5	10/61
7	Closet World (Quemetco)	060371404	Pb	10/08
8	Compton	060371302	CO,NO2,O3,Pb,PM2.5	01/04
9	Costa Mesa	060591003	CO,NO2,SO2,O3	11/89
10	Crestline	060710005	O3,PM10	10/73
11	Fontana	060712002	CO,NO2,SO2,O3,PM10,PM2.5,SO4	08/81
12	Glendora	060370016	CO,NO2,O3,PM2.5,PM10	08/80
13	Indio	060652002	O3,PM10,PM2.5	01/83
14	La Habra	060595001	CO,NO2,O3	08/60
15	Lake Elsinore	060659001	CO,NO2,O3,PM2.5,PM10	06/87
16	LAX Hastings	060375005	CO,NO2,O3,PM10,Pb,SO4	04/04
17	Long Beach (North)	060374002	CO,NO2,SO2,O3,PM10,PM2.5,Pb,SO4	10/62
18	Los Angeles (Main St.)	060371103	CO,NO2,SO2,O3,PM10,Pb,PM2.5,SO4	09/79
19	Mira Loma (Van Buren)	060658005	CO,NO2,O3,PM10,PM2.5	11/05
20	Mission Viejo	060592022	CO,O3,PM10,PM2.5	06/99
21	Norco	060650003	PM10	12/80
22	Ontario Fire Station	060710025	PM10,PM2.5	01/99
23	Palm Springs	060655001	CO,NO2,O3,PM10,PM2.5	04/71
24	Pasadena	060372005	CO,NO2,O3,PM2.5,SO4	04/82
25	Perris	060656001	O3,PM10	05/73
26	Pico Rivera #2	060371602	CO,NO2,O3,Pb,PM2.5,SO4,PM10	09/05
27	Pomona	060371701	CO,NO2,O3	06/65
28	Redlands	060714003	O3,PM10	09/86
29	Rehrig (Exide)	060371405	Pb	11/07
30	Reseda	060371201	CO,NO2,O3,PM2.5	03/65
31	Riverside (Magnolia)	060651003	CO,NO2,Pb,PM10,PM2.5,SO4	10/72
32	Rubidoux	060658001	CO,NO2,SO2,O3,PM10,Pb,PM2.5,SO4	09/72
33	San Bernardino	060719004	CO,NO2,O3,PM10,Pb,PM2.5	05/86
34	Santa Clarita	060376012	CO,NO2,O3,PM10,PM2.5	05/01
35	South Long Beach	060374004	PM10,Pb,PM2.5,SO4	06/03
36	Temecula	060650016	O3, PM2.5	06/10
37	Uddelholm (Trojan Battery)	060371403	Pb	11/92
38	Upland	060711004	CO,NO2,O3,Pb,PM2.5,PM10,SO4	03/73
39	Van Nuys Airport	060371402	Pb	01/10
40	West Los Angeles	060370113	CO,NO2,O3,SO4	05/84

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TABLE 2. FRM/FEM Criteria Pollutant Spatial Scales and Site Type

SPATIAL SCALE
MI – Microscale
MS – Middle Scale
NS – Neighborhood Scale
US – Urban Scale

SITE TYPE
HC – Highest Concentration
PE – Population Exposure
IM – Source Oriented (Impact)
BK – General Background

Location	CO	NO2	SO2	O3	Manual PM10	Manual PM2.5	Pb
Anaheim	NS/PE	US/PE		NS/PE	NS/PE	NS/PE	
ATSF (Exide)							MI/IM
Azusa	NS/PE	US/PE		US/HC	NS/PE	NS/PE	
Banning Airport		NS/PE		NS/PE	NS/PE		
Big Bear						NS/PE	
Burbank	NS/HC	NS/PE	NS/PE	US/HC	NS/PE	NS/PE	
Closet World (Quemetco)							MI/IM
Compton	MS/HC	MS/PE		NS/PE		NS/PE	NS/PE
Costa Mesa	NS/PE	NS/PE	NS/PE	NS/PE			
Crestline				NS/HC	NS/PE		
Fontana	NS/PE	US/PE	NS/PE	US/PE	NS/HC	NS/PE	
Glendora	NS/PE	NS/PE		NS/HC			
Indio				NS/PE	NS/HC	NS/PE	
La Habra	NS/PE	US/PE		NS/PE			
Lake Elsinore	NS/PE	NS/PE		NS/PE			
LAX Hastings	MS/PE/BK	MS/PE/BK	NS/PE/BK	NS/PE/BK	NS/PE/BK		NS/PE/BK
Long Beach (North)	MI/HC	MS/PE	NS/HC	NS/PE	MI/PE	NS/HC	MI/PE
Los Angeles (Main St.)	NS/PE	NS/HC	NS/PE	NS/PE	NS/PE	NS/HC	NS/PE
Mira Loma (Van Buren)	NS/PE	NS/PE		NS/PE	NS/HC	NS/HC	
Mission Viejo	NS/PE			NS/PE	NS/PE	NS/PE	
Norco					NS/PE		
Ontario Fire Station					NS/HC	NS/PE	
Palm Springs	NS/PE	NS/PE		NS/PE	NS/PE	NS/PE	
Pasadena	MS/PE	MS/HC		NS/PE		NS/PE	
Perris				NS/PE	NS/PE		
Pico Rivera #2	NS/PE	NS/HC		NS/HC		NS/PE	NS/PE
Pomona	MI/PE	MS/PE		NS/HC			
Redlands				NS/PE	NS/PE		
Rehrig (Exide)							MI/IM
Reseda	NS/PE	US/PE		US/HC		NS/PE	
Riverside	MI/HC	US/PE				NS/HC	MI/HC
Rubidoux	NS/PE	US/PE	NS/PE	US/HC	NS/HC	NS/HC	NS/PE
San Bernardino	MS/PE	US/PE		NS/HC	NS/HC	NS/PE	NS/PE
Santa Clarita	NS/PE	NS/PE		US/HC	NS/PE	NS/PE	
South Long Beach					NS/HC	NS/HC	NS/HC
Temecula				NS/HC			
Uddelholm (Trojan Battery)							MI/IM
Upland	NS/PE	NS/PE		NS/PE			NS/PE
Van Nuys Airport							MI/IM
West Los Angeles	NS/PE	MS/HC		NS/PE			

TABLE 3. FRM/FEM Criteria Pollutant Monitoring Purposes

MONITORING PURPOSE

BK – Background	RC – Representative Concentration
HC – High Concentration	RM – Real-Time Reporting/Modeling
TP – Pollutant Transport	TR – Trend Analysis
EX – Population Exposure	CP – Site Comparisons
SO – Source Impact	CO - Collocated

Location	CO	NO2	SO2	O3	Manual PM10	Manual PM2.5	Pb
Anaheim	TR	TR/RC		TR	TR/RC	TR/EX	
ATSF (Exide)							SO
Azusa	TR	TR/RC		TR	TR	TR/EX	
Banning Airport		TP/RC		TP	TP		
Big Bear						EX/SO/TP	
Closet World (Quemetco)							SO
Burbank	TR	TR/RC	TR	TR	TR/RC	TR/EX	
Compton	TR/HC	TR/RC		TR/RC		EX/RC	EX
Costa Mesa	RC	TR/RC	TR	RC			
Crestline				HC	TP/RC		
Fontana	RC	TP/RC	TR	RC	HC	EX/TP	
Glendora	RC	TR/RC		HC			
Indio				TP	HC/CO	TP/EX	
La Habra	RC	TR/RC		RC			
Lake Elsinore	TP/RC	TP/RC		TP/RC			
LAX Hastings	BK	BK	BK	BK	BK		BK
Long Beach (North)	HC	TR/RC	TR/HC	TR	TR/RC	EX/HC	EX/CO
Los Angeles (Main St.)	SO/RC	SO/HC	TR	TR/RC	TR/RC/CO	EX/HC/CO	EX/CO
Mira Loma (Van Buren)	TR/RC	TR/RC		TR/HC	HC	EX/HC/CO	
Mission Viejo	RC			TR/RC	TR/RC	EX/RC	
Norco					TR/RC		
Ontario Fire Station					HC/CO	EX/RC	
Palm Springs	TP/RC	TP/RC		TP	TP/HC	EX/TP	
Pasadena	TR/RC	TR/HC		TR/RC		EX/RC	
Perris				TP	TR		
Pico Rivera #2	RC	HC		HC		EX/RC	EX
Pomona	RC	RC		HC			
Redlands				TP/RC	TP/RC		
Rehrig (Exide)							SO/CO
Reseda	RC	TR/RC		HC		EX/RC	
Riverside	HC	TR/RC				EX/HC	EX/CO
Rubidoux	TR/RC	TR/RC	TR	TR/HC	TR/HC/CO	EX/TR/HC/CO	EX
San Bernardino	TR/RC	TP/RC		TR/HC	TR/HC	EX/TR	EX
Santa Clarita	RC	TP/RC		TP/HC	RC	EX/RC	
South Long Beach					HC	EX/SO	EX
Uddelholm (Trojan Battery)							SO
Temecula[2]				TR/HC			
Upland	RC	TR/RC		TR/RC			EX
Van Nuys Airport							SO
West Los Angeles	RC	TR/HC		RC			

TABLE 4. Continuous PM_{10}/$PM_{2.5}$ Monitoring Purpose, Site Type and Spatial Scales

SITE TYPE

HC – High Concentration
PE – Population Exposure
BK - Background

SPATIAL SCALE

MI – Microscale
NS – Neighborhood Scale

INSTRUMENT TYPE

TEOM
BAM (NON-FEM)
BAM (FEM)

MONITORING PURPOSE

SO – Source Impact
TP – Pollutant Transport
TR – Trend Analysis
RM – Real-Time Reporting/Modeling
SPM – Special Purpose Monitoring
CO - Collocated

Location	Continuous PM10				Continuous PM2.5			
	Type	Purpose	Site Type	Scale	Type	Purpose	Site Type	Scale
Anaheim	BAM/FEM	RM/TR	PE	NS	BAM/FEM	RM/TR	PE	NS
Banning Airport					BAM/NON-FEM	RM	PE	NS
Burbank	TEOM/FEM	RM/TR	PE	NS	BAM/FEM	RM/TR	PE	NS
Crestline					BAM/NON-FEM	RM	PE	NS
Glendora	BAM/FEM	RM	PE	NS	BAM/NON-FEM	RM	PE	NS
Indio	TEOM/FEM	RM	HC	NS				
Lake Elsinore	TEOM/FEM	RM	PE	NS	BAM/NON-FEM	RM	PE	NS
Long Beach (North)	BAM/FEM	RM/TR	PE	NS	BAM/FEM	RM	HC	NS
Los Angeles (Main St.)	BAM/FEM	RM/TR	PE	NS	BAM/FEM	RM	HC	NS
Mira Loma (Van Buren)	BAM/FEM	RM	HC	NS	BAM/FEM	RM	HC	NS
Palm Springs	TEOM/FEM	RM/TP	HC	NS				
Reseda					BAM/NON-FEM	RM	PE	NS
Riverside	BAM/FEM	RM	HC	NS	BAM/NON-FEM	RM	HC	NS
Rubidoux	TEOM/FEM	RM/TR	HC	NS	BAM/FEM & NON-FEM	RM/TR/CO	HC	NS
San Bernardino	TEOM/FEM	RM/TR	HC	NS				
Santa Clarita					BAM/NON-FEM	RM	PE	NS
South Long Beach					BAM/FEM	RM/SO	PE	NS
Temecula					BAM/NON-FEM	RM	PE	NS
Upland	BAM/FEM	RM	PE	NS	BAM/NON-FEM	RM	PE	NS

A brief description of the criteria pollutant and program monitoring networks are provided below:

OZONE (O3)

The SCAQMD operates 29 sites where O3 measurements are made as part of the Air Monitoring Network. O3 sites are spread throughout the SCAB with highest concentrations measured inland. Figure 1 in Appendix A shows the spatial distribution of these sites and Table 16 shows the minimum monitoring requirements.

PM10

Size-selective inlet manual high volume samplers are operated at 21 sites to meet the requirements for PM10 Federal Reference Method (FRM) sampling. The Indio, Ontario, and Rubidoux sites are designated as collocated sites as shown in the particulate collocation requirements, Table 24. All PM10 FRM monitors operate on a one day in six day schedule, with the exception of Indio and Rubidoux which operate on one day in three day schedule.

PM10 continuous analyzers are operated at 13 sampling sites. These real-time devices are capable of making hourly particulate concentration measurements. Table 4 describes the monitor type, site type, monitoring purpose, and spatial scale for continuous particulate analyzers. Figure 2 in Appendix A shows the spatial distribution of the sampling sites and Table 18 shows the minimum monitoring requirements. Real-time monitors, for the most part, are clustered in the high concentration areas, with two located in the desert area where wind-blown crustal material has caused exceedances of the twenty-four hour standard during exceptional events. In downwind areas of the SCAB, a large fraction of particulate is formed in the atmosphere; PM10 reaches maximum levels during late summer through early winter months.

Where both 24 hour PM10 FRM samplers and PM10 FEM continuous analyzers are deployed together, they are sited as collocated for data comparison purposes. The 24 hour FRM PM10 sampler remains the primary analyzer used for attainment purposes.

NITROGEN DIOXIDE (NO2)

The area wide NO2 network consists of 25 sites. These sites are mostly located in areas of highest NO2 concentration. The spatial distribution of NO2 monitors is shown in Figure 3 in Appendix A and minimum monitoring requirements are shown in Table 19. Additionally, the Regional Administrator identified 40 NO2 sites nationwide with a primary focus on siting these monitors in locations to protect susceptible and vulnerable populations. The Regional Administrator in collaboration with SCAQMD indentified the Los Angeles (Main), Long Beach (North) and San Bernardino sites from the existing area-wide monitoring network to meet this requirement (58.10[a][5]). Review of 1992 through 2012 NO2 data shows the State and Federal standards for NO2 were not exceeded.

On February 9, 2010 EPA promulgated new minimum monitoring requirements for NO2 which require state and local agencies to install near road monitoring sites. On March 7, 2013 EPA revised the Ambient Nitrogen Dioxide Requirements postponing near road monitoring site implementation until January 1, 2014. The plan for the implementation of the near road network is detailed in the section titled, "Recent or Proposed Modifications to Network."

CARBON MONOXIDE (CO)

Area wide CO monitors measure concentrations at 22 locations and microscale measurements are taken at 3 locations within the SCAQMD ambient air monitoring network. Figure 4 in Appendix A shows the spatial distribution of these sites. CO emissions, primarily from motor vehicles, show a pattern consistent with major freeway arteries. A review of data for 2012 shows State and Federal standards for CO were not exceeded.

On August 31, 2011 EPA issued the Final Rule for the Review of National Ambient Air Quality Standards for CO. EPA revised the minimum requirements for CO monitoring by requiring CO monitors to be sited near roads in certain urban areas. EPA is requiring one CO monitor to be collocated with a subset of near road NO2 monitors. Specifically, EPA is requiring the collocation of one CO monitor with a near road NO2 monitor in urban areas having populations of 1 million or more. EPA is specifying that monitors required in Core Based Statistical Areas (CBSA) of 2.5 million or more persons be operational by January 1, 2015.

One near road CO monitoring site is required in each of the Los Angeles-Long Beach-Santa Ana MSA\CBSA (Code 31100) and the Riverside-San Bernardino-Ontario MSA\CBSA (Code 40140) areas. Near road CO monitoring is to be implemented concurrently with the near road NO2 monitoring network and operational by January 1, 2015. Minimum monitoring requirements are shown in Table 21.

SULFUR DIOXIDE (SO2)

SO2 monitors are located at 7 sites. Figure 5 in Appendix A shows the spatial distribution of the sites. Most SO2 emissions come from Federal transportation sources such as marine vessels. The monitors are clustered mostly in the areas where these sources are located.

On June 22, 2010 EPA strengthened the SO2 National Ambient Air Quality Standard (NAAQS). Network design requirements included new minimum requirements be determined by the Population Weighted Emissions Index (PWEI).

> The PWEI shall be calculated by States for each CBSA they contain or share with another State or States for use in the implementation of or adjustment to the SO2 monitoring network. The PWEI shall be calculated by multiplying the population of each CBSA, using the most current census data or estimates, and the total amount of SO2 in tons per year emitted within the CBSA area, using an aggregate of the most recent county level emissions data available in the National Emissions Inventory (NEI) for each county in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million persons-tons per year. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO2 monitors are required within that

CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO2 monitors are required within that CBSA and for any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO2 monitor is required within that CBSA.

TABLE 5. PWEI Calculation and Minimum Required SO2

CBSA	Population Estimate	NEI SO2 Emmissions	PWEI Value	Minimum Required SO2
31100	13,052,921	12,062.81	157,455	2
40140	4,350,096	2,550.94	11,097	1

SCAQMD exceeds the minimum requirement for SO2 monitors; the Federal standard has not been exceeded for nearly 33 years.

PARTICULATE LEAD

Total Suspected Particulate (TSP) Pb measurements are collected at 15 sites as part of the network; 5 of the sites are Source Impact for Pb, and the remaining 10 sites measure ambient Pb, and Sulfates (SO4). There are 2 additional sites which measure SO4 only which are under consideration for removal since ARB deleted the TSP SO4 method, ARB method MLD 033, and replaced it with the existing ARB method and creating a new standard for PM10 SO4, ARB method MLD 007.

The Rehrig (Exide) site measures the highest Pb concentrations in the monitoring network. Upon review of data (2010-2012) Rehrig (Exide) Pb monitoring site measured 0.46 ug/m3 as a 3 month rolling average. The Rehrig (Exide) monitoring location has been designated as a collocated monitoring location along with the Long Beach, Los Angeles, and Riverside sites as shown in the minimum monitoring requirements, Table 24. The spatial distribution of these sites is shown in Figure 6 in Appendix A.

In 1990, the EPA requested that the SCAQMD collect ambient air particulate samples near several large Pb handling (battery recycling) facilities. Long-term source impacted monitoring began in 1991. A facility in the City of Industry exceeded the Federal ambient particulate Pb standard during the second quarter of Fiscal Year 1991-92. Pb monitoring at a facility in the City of Torrance ended in 1993 when measurements were consistently below the ambient standard. Sampling ended at a facility in the City of Commerce in 2006 when the business was closed. Out of the two facilities currently being monitored, the facility in the City of Vernon exceeded the old Federal ambient particulate Pb standard (1.5 ug/m3 quarterly) during the first quarter of 2008; the other facility was found to remain below this level. These source-related Pb sites are also depicted in Figure 6.

On November 12, 2008, the EPA issued final revisions to the NAAQS for Pb. Network design requirements included monitoring for sources of Pb (source oriented monitoring) and urban Pb monitoring (non-source oriented). To meet this requirement, a source oriented site was established on January 1, 2010 at the Van Nuys Airport and monitoring will continue at the sites surrounding the Exide (Vernon), Quemetco (Industry), and the

Trojan Battery facilities. Existing urban Pb monitoring conducted at Compton, LAX Hastings, Long Beach (North), Los Angeles (Main), Pico Rivera, Riverside Magnolia, Rubidoux, San Bernardino, South Long Beach, and Upland exceed the minimum monitoring requirements.

The final rule for Pb went into effect on January 26, 2011. In the final rule the Van Nuys Airport was no longer included on the list of airports where lead monitoring was required, and a more recent emissions inventory showed lead emissions less than 1 ton per year. The data from the Van Nuys Airport Pb site is currently under review to determine the need for continued monitoring based upon conditions as cited in 40 CFR 58 Appendix D 4.5.

The most recent NEI data available shows the Long Beach Airport, Daugherty Field (NEI 2008, Version 2 http://www.epa.gov/ttn/chief/net/2008inventory.html) just over the requirement for Pb source monitoring at 1.02528004 tpy. As part of the MATES IV program, SCAQMD is conducting a preliminary study to determine the need for long term Pb source monitoring at the Long Beach Airport. The study is expected to be completed and assessment conducted by the end of 2014. A determination will be made in consultation with EPA Region IX on the need for long term monitoring at the time of the 5 year network assessment in 2015.

Photochemical Assessment Monitoring Stations

The Photochemical Assessment Monitoring Stations (PAMS) network was initiated in June 1994 at Pico Rivera and Upland. During 1995 sites were established at Banning and Azusa to determine speciated hydrocarbon O3 precursor compounds in ambient air. PAMS monitoring at Hawthorne commenced in June 1997 and the Burbank station became a PAMS site in July 1997. In May 2001, the Santa Clarita location was established as a PAMS site. In April 2004, the Hawthorne site was replaced by LAX Hastings, due to the end of a property lease. In August 2005, the Pico Rivera station moved to a new location one half mile south of the previous site, also due to the end of the property lease.

On October 17, 2006, the EPA issued final amendments to PAMS monitoring requirements in 40 CFR § 58. The changes made to the rule were to implement recommendations made by the PAMS workgroup formed to assess the program. The workgroup recommended changes be made to site type and monitoring objectives. During September 2008, a report from the EPA PAMS network assessment project workgroup was issued. The objectives of the workgroup were to assess how well the current PAMS network was meeting monitoring objectives, determine which sites are most useful for meeting objectives, identify potentially redundant, ineffective, or unnecessary sites, and to assess other enhanced O3 monitoring activities that may prove useful.

To address regulatory changes, site-specific observations from the PAMS network assessment project, and potential synergies between programs, SCAQMD made the following changes in June 2009 to the PAMS monitoring network:

- Burbank was reclassified from Type 2/1 to Type 2. This change addressed the National PAMS Network Assessment observation that Burbank should be reclassified to a Type 2 precursor site. The recommendation is consistent with the heavily urbanized/industrialized area, which is impacted by high levels of O3 precursor emissions.
- Santa Clarita was reclassified as Type 3 from Type 2. Although the National PAMS Network Assessment observed that Santa Clarita was consistent with a Type 2 site, recent data was more consistent with a Type 3 maximum O3 concentration site rather than a Type 2 O3 precursor site.
- Banning was relocated to Los Angeles (Main). The National PAMS Network Assessment observed that Banning had the lowest O3 concentrations of all the Type 2 sites and should be reclassified to a Type 3 or 4 site. Instead, to create synergies between programs, SCAQMD relocated the Banning PAMS site to the Los Angeles (Main) site as Type 2. This satisfies the EPA recommendation for use of the same monitoring platform and equipment to meet the objectives of multiple programs. Los Angeles (Main) is also a National Air Toxics Trends Station (NATTS), a National Core-Multi-pollutant Monitoring Station (NCore), and a Speciation Trends Network (STN) site.
- Azusa was reclassified from Type 3 to Type 2. This proposed change addresses the National PAMS Network Assessment observation that Azusa has high Volatile Organic Compounds (VOC) and Oxides of Nitrogen (NOX) concentrations, with lower O3 concentrations. The site now more closely resembles a Type 2 O3 precursor site.
- Upland was relocated to the Rubidoux site. The National PAMS Network Assessment observed that Upland was no longer consistent with a Type 4 site and recommended reclassification to Type 3. SCAQMD relocated the Upland PAMS site to Rubidoux as a Type 3 location where synergies can be created among the NATTS, NCore, and the STN programs.
- LAX Hastings and Pico Rivera remained unchanged.

Currently, manual VOC canisters are in operation at the Azusa, LAX Hastings, Rubidoux, Los Angeles (Main), and Santa Clarita air monitoring stations. During the intensive season from July 1 until September 30, VOC canisters are run every three hours for a period of twenty-four hours every 3rd day and a twenty-four hour sample is run every 6th day. During the non-intensive season from October 1 through June 30, twenty-four hour VOC canister samples are run every 6th day.

At Los Angeles (Main) and Santa Clarita air monitoring stations, during the intensive season from July 1 until September 30, carbonyl samples are run every three hours for a period of twenty-four hours every 3rd day and a twenty-four hour sample is run every 6th day. During the non-intensive season from October 1 through June 30, twenty-four hour carbonyl samples are run every 6th day.

Automated Gas Chromatography Flame Ionization Detector (GC\FID) VOC systems are in operation at the Pico Rivera and Burbank air monitoring stations. During the intensive sampling season from July 1 until September 30, the GC\FID is run to collect daily 3-hour samples and twenty-four hour VOC canisters are run every 6th day. Like the other PAMS sites, carbonyl samples are run every three hours with one additional twenty-four hour sample run every 6th day. During the non-intensive season from October 1 through June 30, the GC/FID is idle and twenty-four hour VOC canister samples are run every 6th day and twenty-four hour carbonyl samples are run every 6th day. Rubidoux is a collocated site for VOC canister sampling and Pico Rivera is a collocated site for VOC canister and carbonyl sampling.

During April 2010, a system audit was conducted by the EPA, which assessed the SCAQMD NATTS/PAMS programs. The audit found no major issues with the operation of the network but recommended implementation of blanking and low level concentration challenge samples for the NATTS and PAMS programs. Blanking was implemented in June, 2010 and low level challenge samples were implemented during October, 2010 and are completed annually.

The first SCAQMD upper air meteorological monitoring station was established at Los Angeles International Airport (LAX) in 1994. Subsequent upper air stations include Ontario International Airport (ONT) installed in 1996, Moreno Valley (MOV) installed in 2001 at the Moreno Valley Municipal Water Treatment Plant in Riverside County, Irvine installed at the University of California Research and Extension Center in 2006, and Pacoima at Whiteman Airport during May 2007. The upper air stations use a combination of remote sensing and surface meteorological instrumentation, including the Scintec (formerly Radian/URS and Vaisala) LAP-3000 radar wind profiler with a Radio Acoustic Sounding System (RASS), the Atmospheric Systems Corporation (formerly AeroVironment Inc.) mini Sodar acoustic wind profiler, and tower-mounted meteorological measurements of wind, pressure, temperature, relative humidity, solar radiation, and ultraviolet radiation. Due to the age of the LAX upper air instrumentation and costly component failures, SCAQMD is proposing to replace the LAX instrumentation with the Whiteman Airport systems, thereby closing the Whiteman upper air station.

The PAMS network monitoring objectives and requirements are summarized in Table 6, Table 23 and Figure 7 in Appendix A shows the distribution of the PAMS network.

TABLE 6. PAMS Network

			July 1 to September 30		October 1 to June 30		
Site Type	**Date Established as PAMS**	**Site / AQS ID#**	**VOC**	**Carbonyl**	**VOC**	**Carbonyl**	**Additional Requirements**
1	04/01/2004	LAX Hastings (replaced Hawthorne)	8 x 3 hr samples every 3rd day and 1 x 24 hr sample every 6th day	No Sampling	1 x 24 hr sample every 6th day	No Sampling	
2	06/01/1995	Azusa	8 x 3 hr samples every 3rd day and 1 x 24 hour sample every 6th day	No Sampling	1 x 24 hr sample every 6th day	No Sampling	No/NOx required
2	07/01/1997	Burbank	Continuous GC and 1 x 24 hr sample every 6th day	8 x 3 hr samples every day and 1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	
2	06/01/2009	Los Angeles (Main)	8 x 3 hr samples every 3rd day and 1 x 24 hour sample every 6th day	8 x 3 hr samples every 3rd day and 1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	Trace level CO required at one type 2 site.
2	08/01/2005	Pico Rivera #2	Continuous GC and 1 x 24 hr sample every 6th day	8 x 3 hr samples every day and 1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	
3	06/09/2009	Rubidoux	8 x 3 hr samples every 3rd day and 1 x 24 hour sample every 6th day	No Sampling	1 x 24 hr sample every 6th day	No Sampling	NOy required
3	05/01/2001	Santa Clarita	8 x 3 hr samples every 3rd day and 1 x 24 hour sample every 6th day	8 x 3 hr samples 3rd day and 1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	1 x 24 hr sample every 6th day	

<u>MONITORING OBJECTIVES</u>:
1 – Upwind and background characterization site (type 1 or 3)
2 – Maximum O3 precursor emissions impact site or above 8 hr zone
3 – Maximum O3 concentration site
4 – Extreme downwind monitoring site

<u>MONITORING REQUIREMENTS</u>:
One type 1 or type 3 site required per area
One type 2 site required per area
No type 4 required

<u>REDUCED REQUIREMENTS</u>:
Speciated VOC only required at type 2 and one other
Carbonyl only required in areas classified as serious
NO/NOx required only at type 2
NOy required at one site per PAMS area (type 1 or 3)

PM2.5

A network of 17 FRM samplers was first implemented in January 1999. On December 26, 1999, a second Coachella Valley PM2.5 sampling site was established in Palm Springs. On June 20, 2003, PM2.5 sampling began at the South Long Beach site. The final addition to the PM2.5 FRM network occurred in October 2005, at the new Mira Loma site. This brings the total number of PM2.5 FRM sampling sites to 20. The sites are depicted in Figure 8, Appendix A and the starting date of each sampler is listed in Table 7. In March 2012, a change was made relocating the collocated PM2.5 monitor from Indio to the Mira Loma (Van Buren) site. This change was made following approval from EPA. Collocated sampling sites include Rubidoux, Central Los Angeles, and Mira Loma (Van Buren). Manual PM2.5 monitors are neighborhood scale and population exposure representing community wide air quality and multiple sites are listed as population exposure. Because all of SCAQMD is in non-attainment for PM2.5, most of the sites are in areas of poor air quality therefore multiple sites are listed as population exposure and high concentration. If a PM2.5 network modification were to be implemented for a site that was in exceedence of the of the PM2.5 NAAQS levels, SCAQMD would notify US EPA Region IX via written communication. Public notice occurs as part of the annual network plan process with is stated in the annual network plan. All sites in the Network using FRM samplers are suitable for comparison against the annual PM2.5 NAAQS.

During April 2009, SCAQMD completed minor changes to the FRM monitoring schedule to enhance Federal Equivalent Method (FEM) Beta Attenuation Monitor (BAM) comparisons. On April, 16th, 2009 the Burbank and Mira Loma (Van Buren) FRM samplers changed to daily sampling from the 1-in-3 day schedule and the Azusa location changed from every day sampling to 1-in-3 day sampling. Federal minimum monitoring requirements for PM2.5 are still being met and/or exceeded.

Continuous PM2.5 Met One BAMs were first deployed in fiscal year 2001–02. Seventeen monitors are now operating in the SCAB, two at Rubidoux (FEM & Non FEM BAM), and one each at Anaheim, Los Angeles, South Long Beach, Burbank, Mira Loma (Van Buren), and Banning sites. In January 2006, two additional samplers were added at Lake Elsinore and Glendora as part of the Children's Health Study. As proposed in the 2008 network plan, FEM BAM monitors were deployed during October 2008, at the Anaheim, Burbank, Long Beach (North), Los Angeles (Main), Mira Loma (Van Buren), Rubidoux, and South Long Beach sites. Relocated NON-FEM BAM samplers were installed at Reseda, Riverside Magnolia, Santa Clarita, Crestline, and Upland. A NON-FEM BAM was collocated with a FEM BAM at Rubidoux. An additional NON-FEM BAM sampler was deployed at Temecula during July, 2010. In 2011, all FEM BAMs have been reclassified from special purpose monitors to SLAMS under 40 CFR § 58.20. In 2013, SCAQMD conducted a PM2.5 Continuous Monitor Comparability Assessment (Appendix C) in accordance with the PM NAAQS rule published on January 15th, 2013 (78 FR 3086). Specific to the provisions detailed in §58.10 (b)(13) and §58.11 (e), the assessment results indicate that all of the SCAQMD PM2.5 Continuous Monitors do not meet the criteria to be compared against the NAAQS currently. Thus, SCAQMD is requesting a waiver to exclude PM2.5 continuous monitor data from NAAQS comparison (Appendix C). At such time when the assessment indicates that the FEM monitors are with the acceptance criteria, then U.S. EPA will be notified of the results and the AQS parameters will be changed to indicate that the data will be eligible for comparison to the NAAQS upon U.S. EPA approval.

Where both 24 hour FRM PM2.5 samplers and FEM PM2.5 continuous analyzers are deployed together, they are sited as collocated for data comparison purposes if the FEM analyzer meets the acceptance criteria under 78 FR 3086. The 24 hour

TABLE 7. Manual $PM_{2.5}$ FRM Monitoring Stations Assigned Site Numbers

Location	Site Code	ARB No.	AQS No.	Start Date	Schedule
Anaheim	ANAH	30178	060590007	01/03/99	Daily
Azusa	AZUS	70060	060370002	01/04/99	1-in-3
Big Bear	BGBR	36001	060718001	02/08/99	1-in-6
Burbank	BURK	70069	060371002	01/21/99	Daily
Compton	COMP	70112	060371302	11/08	1-in-3
Fontana	FONT	36197	060712002	01/03/99	1-in-3
Indio “A”	INDI	33157	060652002	01/30/99	1-in-3
Long Beach (North)	LGBH	70072	060374002	01/03/99	Daily
Los Angeles “A” (Main St.)	CELA	70087	060371103	01/03/99	Daily
Los Angeles “B” (Main St.)	CELA	70087	060371103	01/06/99	1-in-6
Mira Loma (Van Buren)	MRLM	33165	060658005	11/09/05	Daily
Mira Loma (Van Buren) “B”	MRLM	33165	060658005	03/08/12	1-in-6
Mission Viejo	MSVJ	30002	060592022	06/15/99	1-in-3
Ontario Fire Station	ONFS	36025	060710025	01/03/99	1-in-3
Palm Springs	PLSP	33137	060655001	12/26/99	1-in-3
Pasadena	PASA	70088	060372005	03/04/99	1-in-3
Pico Rivera #2	PICO	70185	060371602	09/12/05	1-in-3
Reseda	RESE	70074	060371201	01/24/99	1-in-3
Riverside	RIVM	33146	060651003	01/06/99	1-in-3
Rubidoux “A”	RIVR	33144	060658001	01/03/99	Daily
Rubidoux “B”	RIVR	33144	060658001	01/03/99	1-in-6
San Bernardino	SNBO	36203	060719004	01/03/99	1-in-3
South Long Beach	SLGB	70110	060374004	06/20/03	Daily

FRM PM2.5 sampler remains the primary analyzer used for attainment purposes and continuous analyzers are designated as audit samplers unless the primary 24 hour FRM PM2.5 is offline then continuous FEM analyzer data can be substituted if the FEM analyzer meets the acceptance criteria under 78 FR 3086.

PM2.5 speciation sampling is also a part of the SCAQMD PM2.5 program. Collocated STN and one SCAQMD Met One SASS PM2.5 samplers were deployed in March 2001 at Rubidoux. An additional STN and collocated SCAQMD SASS samplers were deployed at Central Los Angeles in 2002. In 2003, SCAQMD SASS PM2.5 speciation samplers were installed at Fontana and Anaheim air monitoring sites. Analysis of the filters from the ambient network SASS samplers are being conducted at SCAQMD's laboratory. The STN filters are shipped to Research Triangle Institute (RTI) for analysis. This approach has the concurrence of CARB and EPA, Region IX.

On December 14, 2012 EPA revised NAAQS for PM2.5. As part of the revision EPA updated monitoring requirements for PM2.5 including the addition of monitoring near heavily traveled roads in large urban areas. Specifically, EPA is requiring the collocation of one PM2.5 monitor with a near road NO2 or CO monitor in urban areas having populations of 1 million or more. EPA is specifying that monitors required in CBSAs of 2.5 million or more persons are to be operational by January 1, 2015. One near road PM2.5 monitoring site is required in each of the Los Angeles-Long Beach-Santa Ana MSA\CBSA (Code 31100) and the Riverside-San Bernardino-Ontario MSA\CBSA (Code 40140) areas. Near road PM2.5 monitoring is to be implemented concurrently with the near road NO2 monitoring network and operational by January 1, 2015.

National Air Toxics Trends Station (NATTS)

The NATTS program was developed to fulfill the need for long-term Hazardous Air Pollutant (HAP) monitoring data of consistent quality nationwide. SCAQMD has conducted several air toxics measurement campaigns in the past, which demonstrated the variety and spatial distribution of air toxics sources across SCAB. A single air toxics measurement site cannot reflect the levels and trends of air toxics throughout the SCAB. For this reason, two NATTS sites are used to characterize the SCAB's air toxics levels. The first site is a central urban core site in Los Angeles that reflects concentrations and trends due primarily to urban mobile source emissions. A second, more rural, inland site at Rubidoux captures the transport of pollutants from a variety of upwind mobile and industrial sources in the most populated areas of the air basin. NATTS monitoring began in February 2007 and continues at the Los Angeles (Main) and Rubidoux air monitoring sites. During April 2010, a system audit was conducted by the EPA, which assessed the SCAQMD NATTS program. The audit found no major issues with the operation of the network but recommended implementation of blanking and low level concentration challenge samples for the NATTS and PAMS programs. Blanking was implemented in June, 2010 and low level challenge samples were implemented during October, 2010 and completed annually.

NCore

NCore monitoring rules require that SCAQMD make NCore sites operational by January 1st, 2011. To meet this goal, SCAQMD installed trace level analyzers for CO, NOY and SO2 at the Rubidoux and Central Los Angeles sites. Continuous PM10 and PM2.5 BAM are utilized for PM10-PM2.5 measurements at both sites. Final calibrations were completed at the Rubidoux site January, 2011 and at the Central Los Angeles during May, 2011. Both the Los Angeles and Rubidoux sites are NATTS and PAMS monitoring locations.

Special Programs

Special monitoring programs are conducted for rule compliance purposes, to characterize the levels of toxic air contaminants and other criteria pollutants in sub-regional areas or communities in the SCAB, or to support modeling and planning efforts. The following is a list of special monitoring programs that were active during the past year. Note that this is being provided for informational purposes only.

MATES IV

The SCAB, a highly urbanized area, is home to about seventeen million people who own and operate about eleven million motor vehicles and contains some of the highest concentrations of industrial and commercial operations in the country. It also has the poorest air quality in the U.S. In 1986, SCAQMD conducted the first MATES study to determine the SCAB-wide risks associated with major airborne carcinogens. At the time the state of technology was such that only ten known air toxic compounds could be analyzed. In 1998, a second MATES study (MATES II) represented one of the most comprehensive air toxics measurement programs conducted in an urban environment. MATES II included a monitoring program of 40 known air toxic compounds, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize health risks from hazardous air pollutants. In April 2004, the SCAQMD initiated the third round of MATES (MATES III) to assess the ambient levels of airborne compounds linked to adverse health effects in humans. In June, 2012 SCAQMD began MATES IV.

The objective of MATES IV is to characterize the ambient air toxic concentrations and potential exposures in the SCAB. This project includes one year of ambient monitoring for air toxics which will have a combination of SCAB-wide measurements and localized studies. The project will develop an updated toxics emissions inventory and conduct air dispersion modeling to estimate ambient levels and the potential health risks of air toxics. The results of this effort will determine the spatial concentration pattern of important hazardous air pollutants in the SCAB, will assess the effectiveness of current air toxic control measures, provide trend data of air toxic levels, and be used to update and develop appropriate control strategies for reducing exposures to toxics associated with significant public health risks.

MATES IV proposes to enhance the spatial resolution of previous studies by characterizing the ambient concentration of selected toxic air compounds in communities with varying land-type usage, such as residential, industrial, and commercial, as well as gradients from source areas downwind to receptor areas.

MATES IV monitoring sites will utilize MATES III sites for trend analysis. There are ten fixed sites operating on a one-in-six day schedule for twenty-four hours. Monitoring locations include the Anaheim, Burbank, Compton, Fontana, Huntington Park, North Long Beach, LA Main Street, Pico Rivera, Rubidoux, and West Long Beach areas. MATES IV will add Ultra Fine Particulate (UFP) and Black Carbon (BC) continuous measurements. Mobile monitoring platforms are to be deployed for short term deployments at six to eight sites to include communities with varying land type usage.

Fugitive Dust Study

In support of SCAQMD Rule 403 - Fugitive Dust, SSI PM10 samplers are deployed on an episodic basis upwind and downwind of potential sources as required under Rule 403. Since 2003, periodic sampling has been conducted around gravel quarries and other industries which seem to be producing large volumes of dust.

Hexavalent Chrome

The SCAQMD has an ongoing program of collecting ambient hexavalent chromium in the vicinity of several chrome plating and cement production facilities located throughout the SCAB. Monitoring continues at Newport Beach, Riverside, and other locations throughout the SCAQMD jurisdiction.

College of the Desert

Because exceedances of the standard PM10 have been recorded at the Torres-Martinez (Indian Reservation) station, SCAQMD is conducting an independent monitoring study to evaluate the spatial representativeness of such measurements. A continuous PM10 monitor was set-up near "College of the Desert" on 12/07/10 where measurements continue to be taken. The College of the Desert monitor may be relocating to consolidate monitoring efforts in the Coachella Valley to Saul Martinez Elementary School.

GERDAU-TAMCO

GERDAU North America acquired the TAMCO Rancho Cucamonga steel mini mill in October, 2010. In 2012 Environ Corp. was retained to perform an environmental audit and found discrepancies in reported emissions. Environ found that SOx emissions were not accurately reported prior to 2011, NOx emissions were not accurately being measured and Pb emissions may contribute to an exceedence of the NAAQS. SCAQMD conducted inspections of the facility to address issues and continues monitoring for Pb and Cr+6 at the facility. If results of the monitoring effort show TAMCO as a source of Pb that could contribute to an exceedence of the NAAQS, it will be added to the source impact Pb monitoring network.

Salton Sea Monitoring

On Sunday September 9, 2012, a strong thunderstorm over the Salton Sea caused odors to be released and transported to the northwest, across the Coachella Valley and through the Banning Pass into the SCAB. The odors also crossed through the mountain passes west of the Salton Sea and into the Temecula Valley. The following day, SCAQMD received over 235 complaints of sulfur and rotten egg type odors

As the Salton Sea recedes, potential for more of these large-scale odor events to occur in the future increases. SCAQMD is in the process of establishing an air monitoring network to monitor the type of expected nuisance pollutants which are released from the Salton Sea area. The primary objective of this monitoring network is to place monitoring resources at a lakeside location where peak hydrogen sulfide concentrations are expected to occur. The monitoring sites will provide data that can be used to assess population exposures in case of odor events and for comparison to the state standard for hydrogen sulfide.

As the Salton Sea is projected to recede, these sites could be enhanced for monitoring the predicted particulate matter (PM) emissions from the Salton Sea area that may influence the South Coast Air Basin PM levels.

Recent or Proposed Modifications to Network

Near Roadway NO2 Monitoring

On February 9, 2010, U.S. EPA promulgated new minimum monitoring requirements for the NO2 monitoring network in support of newly revised 1-hour NO2 NAAQS and the retained annual NAAQS. In the new monitoring requirements, State and Local air monitoring agencies are required to install near-road NO2 monitoring stations at locations where peak hourly NO2 concentrations are expected to occur within the near-road environment in larger urban areas. On March 7, 2013 EPA revised the new monitoring requirements from the 2010 NO2 NAAQS revision, delaying implementation of the first phase of the near road network to January 1, 2014 and the second phase to January 1, 2015. As part of the implementation, State and local air agencies are required to consider traffic volumes, fleet mix, roadway design, traffic congestion patterns, local terrain or topography, and meteorology in determining where a required near-road NO2 monitor should be placed. In addition to those required considerations, there are other factors that impact the selection and implementation of a near-road monitoring station including satisfying siting criteria, site logistics (e.g., gaining access to property and safety), and population exposure.

The near roadway grant guidance directed implementation of near road sites be conducted in phases. Phase I sites are to be operational by January 1, 2014 and Phase II sites are to be operational by January 1, 2015. Each phase consists of one site selected from each of the Los Angeles – Long Beach – Santa Ana (Metropolitan Statistical Area (MSA) and the Riverside – San Bernardino – Ontario MSAs.

The primary objective of the near-road NO2 network is to place monitoring resources on near-road locations where peak, ambient NO2 concentrations are expected to occur as a result of on-road mobile source emissions. Monitoring at such a location or locations within a particular urban area will provide data that can be used for comparison to the NAAQS and to assess population exposures for those who live, work, play, go to school, or commute within the near-roadway environment. The near-road NO2 data will provide a clear means to determine whether or not the NAAQS is being met within the near-road environment throughout a particular urban area. Since near-road NO2 monitoring sites are to be placed at locations with expected peak NO2 concentrations, the target mobile sources and the roads they travel upon are ubiquitous throughout urban areas, these monitoring data may be said to represent the relative worst case population exposures that may be occurring in the near-road environment throughout an urban area over the averaging times of interest.

Minimum monitoring requirements are specified in 40 CFR 58 Appendix D. EPA requires state and local air agencies to operate one near-road NO2 monitor in each Core Based Statistical Area (CBSA) with a population of 500,000 or more persons. Further, those CBSAs with 2,500,000 or more persons, or those CBSAs with one or more roadway segments carrying traffic volumes of

250,000 or more vehicles (as measured by annual average daily traffic [AADT] counts), shall have two near-road NO2 monitors. The process of identifying minimum monitoring requirements is shown in Figure A.

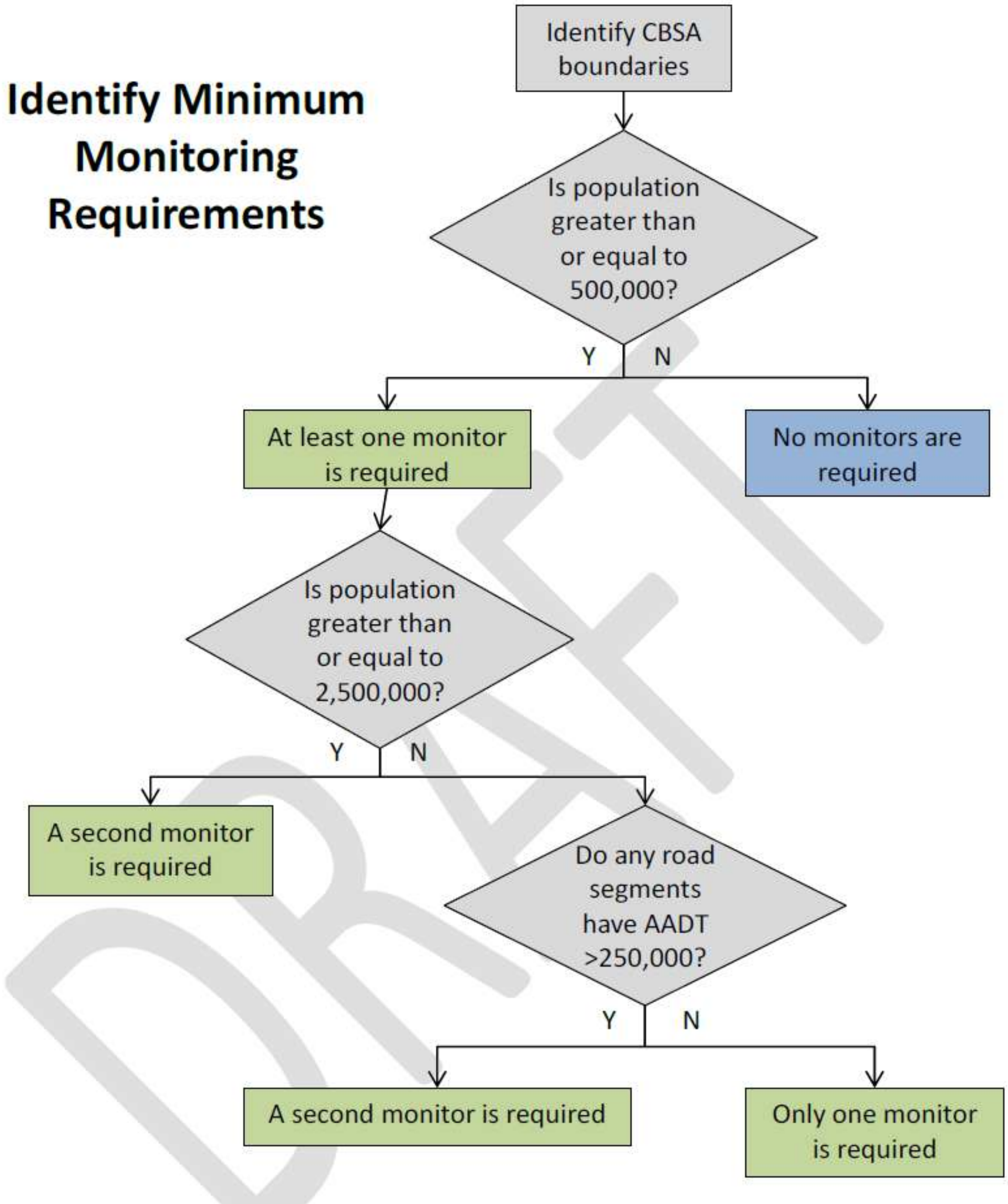


Figure A. Monitoring Requirements

The SCAQMD jurisdictional boundary encompasses two MSAs and two CBSAs whose boundaries and codes mirror those of the MSAs as defined by the U.S. Office of Management and Budget. The Los Angeles-Long Beach-Santa Ana MSA\CBSA (Code 31100) has an estimated population of 13,052,921 and the Riverside-San Bernardino-Ontario MSA\CBSA (Code 40140) has an estimated population of 4,350,096 according to U.S. Census estimates for 2012. The minimum number of monitors required for near road monitoring is based on MSA\CBSA population and shown in Table 8.

TABLE 8. Minimum Number of Monitors Required Near Road NO2

CBSA	Population Estimate	Highest AADT Segment	Minimum Required Near Road NO2 Sites 2014	Minimum Required Near Road NO2 Sites 2015
31100	13,052,921	383,000	1	1
40140	4,350,096	256,000	1	1

The monitoring site selection process was in accordance with guidance published in the U.S. EPA Draft Near Roadway NO2 Technical Assistance Document (TAD) (December, 2011). The process for ranking candidate road segments is outlined in Figure B.

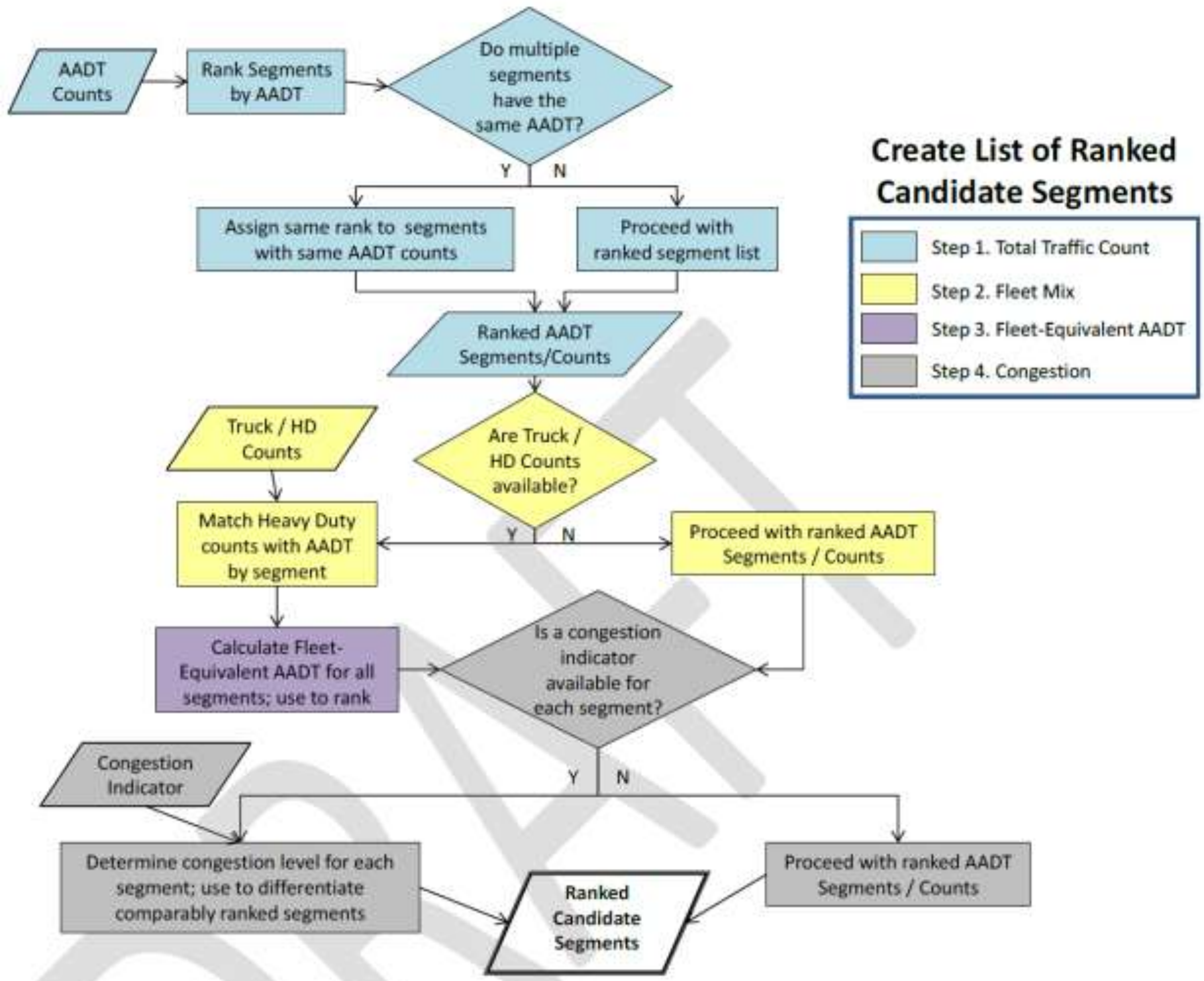


Figure B – Ranking Candidate Road Segments

The candidate road segment ranking process incorporated the following EPA TAD considerations:

FE AADT – A single metric to compare road segments, accounting for AADT and fleet mix (Heavy Duty Vehicles). The Fleet-Equivalent AADT value for each road segment is calculated by the following formula:

(FE) AADT = (AADT – HDc) + (HDm * HDc)

Where AADT is the total traffic volume count for a particular road segment, HDc is the total number of heavy-duty vehicles for a particular road segment, and HDm is a multiplier that represents the heavy-duty to light-duty NOx emission ratio for a particular road segment. An HDm of 17 was used instead of the default national average of 10 based on emissions inventories within the SCAQMD jurisdiction (Air Quality Management Plan, South Coast Air Quality Management District, 2012). The top 15 FE AADT segment candidates are shown in Table 9.

TABLE 9. Top Fifteen FE AADT Candidate Roadway Segments

FE ADDT Rank	HD Rank	AADT Rank	FE AADT	AADT Total	Total Trucks (HD)	Total Truck %	County	Post mile	Route	Description
1	20	4	732,828	343,000	23,770	6.93	LA	23.56	60	DIAMOND BAR, JCT. RTE. 57 SOUTH, ORANGE
2	1	38	731,843	263,000	28,588	10.87	LA	9.612	605	SANTA FE SPRINGS, JCT. RTE. 5, SANTA ANA
3	11	32	695,776	272,000	25,840	9.5	ORA	38.915	5	LINCOLN AVENUE
4	4	51	690,111	248,000	26,958	10.87	LA	13.569	605	WHITTIER, JCT. RTE. 72, WHITTIER BOULEVARD
5	21	14	685,400	299,000	23,561	7.88	LA	7.653	605	NORWALK, JCT. RTE. 105, GLENN ANDERSON FREEWAY
6	53	3	679,014	357,000	19,635	5.5	ORA	34	5	SANTA ANA, JCT. RTES. 22 AND 57, GARDEN
7	9	59	667,843	240,000	26,088	10.87	LA	17.407	605	INDUSTRY, JCT. RTE. 60, POMONA FREEWAY I
8	2	76	667,637	222,000	27,173	12.24	SBD	4.58	60	ONTARIO, JCT. RTE. 83
9	17	41	666,770	259,000	24,864	9.6	ORA	36.258	5	KATELLA AVENUE
10	3	77	664,620	221,000	27,050	12.24	SBD	2.366	60	CENTRAL AVENUE
11	15	54	656,842	245,300	25,094	10.23	SBD	9.936	10	ONTARIO, JCT. RTE. 15
11	16	54	656,842	245,300	25,094	10.23	SBD	11.132	10	ETIWANDA AVENUE
12	19	40	656,299	261,600	24,067	9.2	ORA	5.258	91	ANAHEIM, STATE COLLEGE BOULEVARD
13	7	75	652,729	223,000	26,203	11.75	LA	29.392	60	POMONA, JCT. RTE. 71, CHINO VALLEY FREEWAY
13	8	75	652,729	223,000	26,203	11.75	SBD	0	60	LOS ANGELES/SAN BERNARDINO COUNTY LINE
14	25	28	641,736	276,000	22,301	8.08	ORA	2.615	91	BUENA PARK, JCT. RTE. 39/BEACH BOULEVARD
15	12	83	636,004	215,000	25,671	11.94	SBD	5.855	60	GROVE AVENUE

The process of ranking the roadway segments began with creating a scoring matrix incorporating EPA TAD considerations. The scoring matrix was used as a tool to determine the most suitable location for monitoring by incorporating traffic data and quantifying station siting considerations. FE AADT was weighted a factor of five due to the major role traffic influences near roadway monitoring. Other important factors such as roadway design, distance from roadway, meteorology, roadside structures and terrain were taken into consideration and weighted a factor of one each and are defined as follows:

Roadway Design – Considers monitor placement and can affect pollutant transport and dispersion. The most desirable attributes include a monitoring location at grade with the surrounding terrain and roadway. The least desirable attributes include deep cut-sections significantly below grade or significantly above grade.

Distance from Roadway - Per 40 CFR Part 58 Appendix E: the site should be "As near as practicable to the outside nearest edge of the traffic lanes of the target road segment; but shall not be located at a distance greater than 50 meters, in the horizontal, from the outside nearest edge of the traffic lanes of the target road segment." The TAD recommends the target distance for near-road NO2 monitor probes be within 20 meters of the target road whenever possible.

Meteorology– Can affect pollution transport and dispersion. The most desirable location is relative downwind locations – winds from road to monitor. The least desirable locations are sites upwind of the target road.

Roadside Structures – Considers monitor placement and can affect pollutant transport and dispersion. The most desirable monitoring location will have no barriers present other than low (< 2m in height) safety barriers or guard rails. The least desirable attributes include the presence of sound walls, mature vegetation (high and thick) or obstructive buildings.

Terrain – Can affect pollutant dispersion and local atmospheric stability. The most desirable terrain is flat or gentle terrain, within a valley, or along road grade. The least desirable terrain is along mountain ridges or peaks, hillsides, or other naturally windswept areas.

A scale normalized to 5 was used to rank each candidate segment; the scoring matrix is shown as Table 10.

TABLE 10. Candidate Segment Scoring Matrix

Score	5	3	1	0
FE AADT (Weighted 5x)	Traffic count of the highest ranked FE AADT	Normalized to the highest ranked FE AADT	Normalized to the highest ranked FE AADT	N/A
Roadway Design	At same elevation	Slightly higher elevation	Below grade / Under overpass / On bridge	Design prevents access or accurate representation of roadway.
Distance from Roadway	Less than or equal to 20 m	Normalized distance from 20 m to 50 m	50 m from roadway	>50 m
Meteorology (predominant wind direction)	Downwind	Parallel	Upwind	N/A
Roadside Structures	No barriers (< 2 m)	Some obstruction (small sound barriers sparse low vegetation)	Major obstruction (large sound walls, buildings).	Completely blocked
Terrain	Flat / mildly sloping	Uneven	Mountain ridges, Canyons	Terrain prevents access or accurate representation of roadway

Weighting Values	
FE AADT	5
Roadway Design	1
Distance from Roadway	1
Meteorology	1
Roadside Structures	1
Terrain	1

The top 15 FE AADT sites were surveyed and ranked according to the scoring matrix. Some sites had several locations within the road segment to consider and each location was scored individually as a sub-site. The results are shown for the Los Angeles-Long Beach-Santa Ana MSA\CBSA (Code 31100) and the Riverside-San Bernardino-Ontario MSA\CBSA (Code 40140) in Tables 11 and 12.

TABLE 11. Los Angeles-Long Beach-Santa Ana MSA\CBSA

Location	Route 57/60 Diamond Bar			Route 5/605 Santa Fe Springs		Route 5/Lincoln Anaheim		Route 605/72 Whittier		Route 605/105 Norwalk		Route 5/22/57 Orange		Route 605/60 Industry				Route 5/Katella Anaheim			State College Blvd./Route 91 Anaheim	Beach Blvd/Route 91 Buena Park	Route 710/Del Amo Long Beach
FE AADT Rank	1			2		3		4		5		6		7				9			12	14	25
FE AADT	732,828			731,843		695,776		690,111		685,400		679,014		667,843				666,770			656,299	641,736	610,072
HD Rank	24			1		14		4		25		59		12				21			19	25	10
HD	23,770			28,588		25,840		26,958		23,561		19,635		26,088				24,864			24,067	22,301	26,041
AADT Rank	4			38		32		51		14		3		59				41			40	28	112
AADT	343,000			263,000		272,000		248,000		299,000		357,000		240,000				259,000			261,600	276,000	183,000
Site	1A	1B	1C	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	7C	7D	9A	9B	9C	13A	16A	25A
FE AADT Score	5.00	5.00	5.00	4.99	4.99	4.75	4.75	4.71	4.71	4.68	4.68	4.63	4.63	4.56	4.56	4.56	4.56	4.55	4.55	4.55	4.48	4.38	4.16
Roadway Design	4.5	4.0	5.0	4.5	4.5	4.0	5.0	3.0	5.0	1.0	2.0	4.0	5.0	5.0	2.0	2.0	4.0	3.0	3.0	1.0	1.0	1.0	5.0
Distance from Roadway	5.0	5.0	5.0	5.0	2.5	3.7	5.0	4.0	4.0	2.2	0.0	1.2	3.6	4.0	3.6	2.6	3.3	0.0	3.2	2.5	3.2	2.1	5.0
Meteorology	5.0	5.0	1.0	1.0	1.0	5.0	5.0	3.0	3.5	3.0	4.0	1.0	3.5	1.0	2.5	5.0	3.0	4.0	4.0	4.0	4.0	5.0	5.0
Roadside Structures	5.0	4.0	1.0	3.0	5.0	5.0	5.0	3.0	4.0	1.0	1.0	4.0	4.0	4.0	1.0	1.0	1.0	2.5	2.5	2.5	1.0	1.0	5.0
Terrain	4.0	4.0	4.0	4.0	3.0	3.0	5.0	2.0	5.0	4.0	4.0	4.0	5.0	5.0	2.0	2.0	3.5	3.0	3.0	3.0	3.0	3.0	5.0
Sum (Out of 50)	4.85	4.70	4.10	4.25	4.10	4.44	4.87	3.85	4.50	3.46	3.44	3.74	4.42	4.18	3.39	3.54	3.76	3.52	3.85	3.57	3.46	3.40	4.58
Overall Ranking	**2**	**4**	**12**	**9**	**12**	**7**	**1**	**14**	**6**	**23**	**24**	**17**	**8**	**10**	**27**	**21**	**16**	**22**	**14**	**19**	**23**	**26**	**5**

TABLE 12. Riverside-San Bernardino-Ontario MSA\CBSA

Location	Route 60/83 Ontario	Route 60/Central Chino			Route 10/15 Ontario		Route 10/Etiwanda Fontana	Route 60/71 Chino	Route 60 /LA/SB County Line Chino	Grove Ave/Route 60 Ontario
FE AADT Rank	8	10			11		11	13	13	15
FE AADT	667,637	664,620			656,842		656,842	652,729	652,729	636,004
HD Rank	2	3			19		20	7	8	12
HD	27,173	27,050			25,094		25,094	26,203	26,203	25,671
AADT Rank	76	77			54		54	75	75	83
AADT	222,000	221,000			245,300		245,300	223,000	223,000	215,000
Site	8A	10A	10B	10C	11A	11B	12A	14A	15A	17A
FE AADT Score	4.56	4.53	4.53	4.53	4.48	4.48	4.48	4.45	4.45	4.34
Roadway Design	3.0	2.0	2.0	2.0	4.0	3.0	5.0	1.0	1.0	3.0
Distance from Roadway	2.0	3.3	3.3	4.0	0.0	1.7	5.0	4.0	2.6	4.5
Meteorology	3.5	2.5	2.5	3.0	3.0	4.0	5.0	3.0	3.0	4.0
Roadside Structures	2.5	3.0	4.0	3.0	5.0	1.0	5.0	1.0	3.0	4.0
Terrain	3.5	2.0	4.0	4.0	4.0	2.0	5.0	3.0	3.0	4.0
Sum (Out of 50)	3.73	3.55	3.85	3.87	3.84	3.41	4.74	3.43	3.48	4.12
Overall Ranking	**18**	**20**	**14**	**13**	**15**	**26**	**3**	**25**	**22**	**11**

Level of Service (congestion) data is considered to differentiate between two comparatively ranked segments as part of the site selection process. Tables 13, 14 and 15 show the top congested freeways in the Los Angeles, Orange, and the Riverside-San Bernardino-Ontario MSA\CBSA for the 3rd quarter 2012.

TABLE 13. Top Congested Freeways Los Angeles County

Top Congested Freeways											
		Vehicle Hours of Delay at 60 mph			Difference 2012 Q3-2011 Q3		Difference 2012 Q3-2012 Q2		Rank		
Route	County	2011 Q3	2012 Q2	2012 Q3	Absolute	Percentage	Absolute	Percentage	2011 Q3	2012 Q2	2012 Q3
I5	Los Angeles	3,921,494	4,128,791	4,230,115	308,620	8%	101,324	2%	1	1	1
I405	Los Angeles	3,167,948	3,241,640	3,345,597	177,649	6%	103,957	3%	2	2	2
SR101	Los Angeles	2,449,954	2,663,144	2,632,075	182,121	7%	(31,069)	-1%	4	3	3
SR60	Los Angeles	2,481,172	2,601,830	2,572,141	90,969	4%	(29,689)	-1%	3	4	4
I10	Los Angeles	1,791,015	2,042,595	2,103,522	312,507	17%	60,927	3%	5	6	5
I210	Los Angeles	1,633,330	2,074,617	1,988,584	355,254	22%	(86,033)	-4%	6	5	6
I110	Los Angeles	1,306,151	1,594,212	1,377,139	70,988	5%	(217,074)	-14%	7	7	7
I605	Los Angeles	1,094,062	1,000,373	1,221,395	127,332	12%	221,021	22%	8	8	8
SR91	Los Angeles	848,965	903,838	913,175	64,211	8%	9,337	1%	10	9	9
I105	Los Angeles	1,089,941	814,709	909,510	(180,431)	-17%	94,801	12%	9	10	10
	TOTALS	19,784,031	21,065,749	21,293,251	1,509,221	8%	227,502	1%			

TABLE 14. Top Congested Freeways Orange County

Top Congested Freeways											
		Vehicle Hours of Delay at 60 mph			Difference 2012 Q3-2011 Q3		Difference 2012 Q3-2012 Q2		Rank		
Route	County	2011 Q3	2012 Q2	2012 Q3	Absolute	Percentage	Absolute	Percentage	2011 Q3	2012 Q2	2012 Q3
I5	Orange	2,104,207	1,992,921	2,318,651	214,444	10%	325,731	16%	1	1	1
I405	Orange	1,359,101	1,597,757	1,611,332	252,230	19%	13,575	1%	2	2	2
SR57	Orange	535,138	717,928	845,130	309,992	58%	127,202	18%	5	4	3
SR55	Orange	674,364	666,514	834,619	160,254	24%	168,105	25%	4	5	4
SR91	Orange	985,499	724,537	795,255	(190,245)	-19%	70,718	10%	3	3	5
SR22	Orange	286,292	218,466	269,594	(16,698)	(0)	51,129	0	6	6	6
SR73	Orange	92,870	80,276	103,703	10,833	12%	23,427	29%	7	7	7
SR241	Orange	54,531	57,342	57,361	2,831	5%	20	0%	8	8	8
I605	Orange	49,025	31,043	54,370	5,345	11%	23,327	75%	9	9	9
SR74	Orange	-	-	18,039	18,039	-	18,039	-	12	12	10
SR133	Orange	11,247	13,748	15,101	3,854	34%	1,353	10%	11	10	11
SR261	Orange	13,001	9,854	9,914	(3,087)	-24%	60	1%	10	11	12
TOTALS		6,165,278	6,110,386	6,933,069	767,791	12.5%	822,683	13.5%			

TABLE 15. Top Congested Freeways Riverside & San Bernardino Counties

Top Congested Freeways											
		Vehicle Hours of Delay at 60 mph			Difference 2012 Q3-2011 Q3		Difference 2012 Q3-2012 Q2		Rank		
Route	County	2011 Q3	2012 Q2	2012 Q3	Absolute	Percentage	Absolute	Percentage	2011 Q3	2012 Q2	2012 Q3
SR91	Riverside	822,441	1,110,342	948,587	126,146	15%	(161,756)	-15%	1	1	1
I10	San Bernardino	555,157	553,345	500,421	(54,736)	-10%	(52,925)	-10%	2	2	2
I215	Riverside	413,685	468,381	437,188	23,503	6%	(31,193)	-7%	3	3	3
I15	Riverside	279,922	396,063	420,820	140,898	50%	24,757	6%	5	4	4
SR60	San Bernardino	343,636	362,199	380,276	36,640	11%	18,077	5%	4	5	5
I15	San Bernardino	268,592	293,783	298,184	29,592	11%	4,401	1%	6	6	6
SR60	Riverside	191,549	222,801	169,763	(21,787)	-11%	(53,039)	-24%	7	7	7
I215	San Bernardino	81,385	106,949	152,129	70,744	87%	45,180	42%	9	9	8
I210	San Bernardino	120,773	127,678	131,332	10,559	9%	3,654	3%	8	8	9
I10	Riverside	17,449	21,781	16,657	(793)	-5%	(5,125)	-24%	11	10	10
SR71	Riverside	12,765	11,078	12,122	(643)	-5%	1,044	9%	12	11	11
SR71	San Bernardino	19,628	10,170	10,036	(9,592)	-49%	(134)	-1%	10	12	12
TOTALS		3,126,983	3,684,570	3,477,513	350,530	11%	(207,058)	-6%			

On January 23, 2013 a Near Roadway Monitoring workshop was held at SCAQMD's Diamond Bar office. EPA along with SCAQMD staff presented and held a discussion on SCAQMD's progress and implementation plan for the Near Roadway monitoring requirements. The workshop was attended by approximately 17 members of the public. Comments were solicited at the conclusion of the workshop and no written comments were received regarding selection criteria or proposed sites.

Sites are selected based on their ranking in the scoring matrix however there are other considerations involved in the site selection process. These considerations include:

Safety - Near-road monitoring sites must be accessible to station operators in a safe and legal manner, and not pose safety hazards to drivers, pedestrians, or nearby residents. Safety hazards to monitoring site operators include factors which inhibit the safe entrance to or egress from a site and factors that could allow vehicles to encroach upon and damage the site infrastructure.

Accessibility – ability to access the desired location from the property owner or ability to obtain a right of way permit.

Infrastructure – availability of power and data connection at the site.

The projected timeline for installation and operation of the near roadway monitoring sites is as follows:

Date	Activity
January to June 2013	Finalize site selection process for phase I implementation. Include in Annual Network Plan. Obtain permission and or permits for highest ranking sites.
July 2013	Site survey with construction manager.
July to November 2013	Site preparations (construction, utility installation etc.)

November to December 2013	Instrument installation and field quality control checks.
January 2014	Collection and reporting of data for phase I.
January 2014 to June 2014	Finalize site selection process for phase II implementation. Include in Annual Network Plan. Obtain permission and or permits for highest ranking sites.
July 2014	Site survey with construction manager.
July to November 2014	Site preparations (construction, utility installation etc.)
November to December 2014	Instrument installation and field quality control checks.
January 2014	Collection and reporting of data for phase II.

Following startup date, the continuous operation of instrumentation and meteorological data is ongoing with data reported to AQS and AIR/Now.

Van Nuys Pb Monitoring Site

On November 12, 2008, the EPA issued final revisions to the NAAQS for Pb. Network design requirements included monitoring for sources of Pb (source oriented monitoring) and urban Pb monitoring (non-source oriented). To meet this requirement, a source oriented site was established on January 1, 2010 at the Van Nuys Airport. The final rule for Pb went into effect on January 26, 2011. In the final rule the Van Nuys Airport was no longer included on the list of airports where lead monitoring was required, and the most recent emissions inventory showed Pb emissions less than 1 ton per year. The data from the Van Nuys Airport Pb site is currently under review to determine the need for continued monitoring. SCAQMD is currently in consultation with EPA Region IX to determine the need for continued monitoring. Prior to discontinuance of monitoring a waiver will be obtained from EPA Region IX.

Sulfate Monitoring

SCAQMD has been monitoring TSP sulfate data at the Azusa, Fontana, Pasadena, and West Los Angeles monitoring since the inception of the monitoring sites. In 2003, ARB revised the sulfates monitoring method and standard by deleting the TSP sulfates method, ARB method MLD 033, and replaced it with the existing ARB method and creating a new standard for PM10 sulfates, ARB method MLD 007. ARB conducted a comparison of SCAQMD PM10 and TSP sulfate data for 1999 though 2010 and found good correlation between the two methods. TSP sulfate data was reviewed in consultation with EPA and ARB who determined the need did not exist for continued TSP sulfate monitoring and a waiver was not necessary since the rule no longer exists. TSP sulfate monitors were removed from the Pasadena and West LA monitoring sites. The TSP sulfate monitors will continue at the Azusa and Fontana sites through the end of the MATES IV program.

Pasadena

SCAQMD has been operating the Pasadena site since 1982. The deteriorating state of the shelter along with compromises made to the siting criteria due to obstructions has made it a candidate for site improvement. As part of regular air monitoring station maintenance, the station shelter was replaced in FY 2012-13. No changes have been made to the location or siting of the shelter.

Crestline
SCAQMD has been operating the Crestline site since 1973. The deteriorating state of the shelter along with compromises made to the siting criteria due to obstructions has made it a candidate for site improvement. As part of regular air monitoring station maintenance, a new station shelter has been ordered to replace the existing trailer during FY 2013-14.

West LA
SCAQMD has been operating the West LA site since 1983. The deteriorating state of the shelter along with compromises made to the siting criteria due to obstructions has made it a candidate for site improvement. As part of regular air monitoring station maintenance, a new station shelter has been ordered to replace the existing trailer during FY 2013-14.

Riverside Magnolia
SCAQMD has been operating the Riverside Magnolia site since 1972. The deteriorating state of the building along with compromises made to the siting criteria due to obstructions has made it a candidate for site relocation. SCAQMD in consultation with EPA Region IX has located a candidate site for relocation. During the FY 2013-14 a data comparison between the sites will be undertaken. If comparison of data between the two locations demonstrates some comparability, the Riverside site may be relocated in consultation with EPA Region IX.

South Long Beach
SCAQMD has been operating the South Long Beach station as part of the ambient air-monitoring network. Recent construction of the buildings adjacent to our air monitoring equipment compromises the siting criteria. During the FY 2013-14 a data comparison between a more centralized monitoring location in Long Beach will be undertaken. If comparison of data between the two locations demonstrates some comparability, or if the metropolitan site shows consistently higher levels of PM, the South Long Beach site may be relocated in consultation with EPA Region IX.

Air Monitoring Station Improvements
As part of the actions to enhance quality of data collected, SCAQMD will replace existing deteriorated shelters at the Indio, San Bernardino, West Los Angeles and Perris monitoring sites. The new shelters will be installed at the same locations as the existing structures.

PAMS
SCAQMD currently operates five upper air meteorological stations within the South Coast Air Basin, as part of the PAMS program, using remote sensing technologies. Sites include:

Los Angeles International Airport (LAX), Los Angeles County
Whiteman Airport (WHP), Pacoima, Los Angeles County
Ontario International Airport (ONT), San Bernardino County
Moreno Valley (MOV), Riverside County
Irvine (IRV), Orange County

Sites utilize the Scintec Corporation LAP-3000 915 MHz boundary layer radar wind profilers (RWP) with radio acoustic sounding systems (RASS), as well as some Atmospheric Systems

Corporation miniSodars to help collect winds in the lowest layers. The wind profiler network is larger than most areas due to the complex terrain and meteorological characteristics of the South Coast Air Basin.

The LAP-3000 RWP systems at all five stations were evaluated extensively on-site by Scintec in February 2013. Relatively routine problems were found at the monitoring sites and are currently being repaired, however there were more significant problems found with the LAX RWP. The LAX RWP is the oldest system, built in the early 1990s and installed in 1994 after being used for a field campaign. Issues include:

Final Amplifier failure (both final amp and pre-amp do not meet output specifications).
Discrete parts no longer available to repair subsystems.
Radar Antenna failure (defective antenna RF dividers; return signal loss).
Antenna Phase Shifter likely to fail soon due to corrosion.

The cost for the replacement subsystems to repair the existing RWP is $178,000, plus tax and shipping, including a new antenna, phase shifter and final amplifier. In addition it is necessary to replace the aging computer and electronics (Modulator/IF/Interface unit and Power Supply) with a whole new RWP system would cost approximately $270,000 total, plus tax and shipping. Due to the cost of repairing the current LAX system, as well as the cost of maintaining the network of upper air stations in the South Coast Air Basin, SCAQMD proposes to reduce the size of the network. After consideration of the data needs and priorities, we propose closing the Whiteman Airport upper air station, and using those components to maintain the LAX RWP. The LAX station is a key location for upper air data for analyses, forecasting and modeling activities in the Basin. The Whiteman Airport system is the newest and best suited for the environment at LAX.

Minimum Monitoring Requirements

The SCAQMD jurisdictional boundary encompasses two MSAs and two CBSAs whose boundaries and codes mirror those of the MSAs as defined by the U.S. Office of Management and Budget. Los Angeles-Long Beach-Santa Ana MSA\CBSA (Code 31100) has an estimated population of 13,052,921 and the Riverside-San Bernardino-Ontario MSA\CBSA (Code 40140) has an estimated population of 4,350,096 according to U.S. Census estimates for 2012. The minimum number of monitors for each pollutant is based on MSA population as described in 40 CFR § 58 Appendix D. The SCAQMD is a Primary Quality Assurance Organization (PQAO) and the network exceeds the minimum monitoring requirements for all criteria pollutants. Details are provided below.

Table 16 Minimum Monitoring Requirements for Ozone.

(Note: Refer to section 4.1 and Table D-2 of Appendix D of 40 CFR Part 58.)

MSA	Counties	Population and Census Year	8-hr Design Value (ppb) DV, Years[1]	Design Value Site (name AQS ID0	Monitors Required	Monitors Active	Monitors Needed
31100	Los Angeles Orange	13,052,921, 2012	96, 2009-2012	Santa Clarita 060376012	4	17	0
40140	San Bernardino Riverside	4,350,096, 2012	106, 2009-2012	Crestline 060710005	3	12	0

[1]DV Years – The three years over which the design value was calculated.

Monitors required for SIP or Maintenance Plan: 29

Table 17a Minimum Monitoring Requirements for PM2.5 SLAMS (FRM/FEM/ARM)

(Note: Refer to sections 4.71, 4.72, and Table D-5 of Appendix D of 40 CFR Part 58.)

MSA	Counties	Population and Census Year	Annual Design Value [ug/m3], DV & Years[1]	Annual Design Value Site (Name, AQS ID)	Daily Design Value [ug/m3], DV & years	Daily Design Value site (name AQS ID)	# Required SLAMS Monitors	# Active SLAMS Monitors	# Additional SLAMS needed
31100	Los Angeles Orange	13,052,921, 2012	12.6, 2009-2012	Los Angeles 060371103	32.2, 2009-2012	Burbank 060371002	3	11	0
40140	San Bernardino Riverside	4,350,096, 2012	15.2, 2009-2012	Mira Loma 060658005	36.2, 2009-2012	Mira Loma 060658005	3	9	0

[1]DV Years – The three years over which the design value was calculated.

Table 17b Minimum Monitoring Requirements for Continuous PM2.5 Monitors (FEM and Non-FEM)*

(FEM/ARM and non-FEM see 40 CFR 58 Appendix D Section 4.72.)

MSA	Counties	Population and Census Year	Annual Design Value [ug/m3], DV & Years[1]	Annual Design Value Site (Name, AQS ID)	Daily Design Value [ug/m3], DV & years	Daily Design Value site (name AQS ID)	# Required Continuous Monitors	# Active Continuous Monitors	# Additional Continuous needed
31100	Los Angeles Orange	13,052,921, 2012	18.9, 2009-2012	Los Angeles 060371103	45.3, 2009-2012	Los Angeles 060371103	2	5-FEM 3-Non FEM	0
40140	San Bernardino Riverside	4,350,096, 2012	21.3, 2009-2012	Mira Loma 060658005	42.21, 2009-2012	Mira Loma 060658005	2	2-FEM 6-Non FEM	0

[1]DV Years – The three years over which the design value was calculated.

Monitors required for SIP or Maintenance Plan: 16

* Currently all active continuous monitors do not meet acceptance criteria under 78 FR 3086 (Appendix C) and is requested to not be compared to the NAAQS.

Table 17c Minimum Monitoring Requirements for Speciated PM2.5 Monitors

(Note: Refer to sections 4.74 of Appendix D of 40 CFR Part 58.)

MSA	Counties	Population and Census Year	Monitors Required[1]	Monitors Active	Monitors Needed
31100	Los Angeles Orange	13,052,921, 2012	1	2	0
40140	San Bernardino Riverside	4,350,096, 2012	1	2	0

[1]sites designated as part of the $PM_{2.5}$ Speciation Trends Network (STN).

Table18 Minimum Monitoring Requirements for PM10

(Note: Refer to section 4.6 and Table D-4 of Appendix D of 40 CFR Part 58.)

MSA	Counties	Population and Census Year	Max Concentration [ug/m3]	Max Concentration site (name AQS ID)	# Required Monitors	# Active Monitors	# Additional Monitors Needed
31100	Los Angeles Orange	13,052,921, 2012	80	Los Angeles 060371103	4-8 Med Conc	9	0
40140	San Bernardino Riverside	4,350,096, 2012	124	Indio, 060652002	6-10 High Conc	12	0

Monitors required for SIP or Maintenance Plan: 21

Table 19 Minimum Monitoring Requirements for NO2

(Note: Refer to section 4.3 of Appendix D of 40 CFR Part 58.)

CBSA	Population and Census Year	Max AADT Counts (2010)[1]	# Required Near Road Monitors[2]	#Active Near Road Monitors[3]	#Additional Near Road Monitors Needed[4]	#Required Area Wide Monitors	#Active Area Wide Monitors	#Additional Area wide Monitors Needed
31100	13,052,921, 2012	357,000, 2010	0	0	0	1	17	0
40140	4,350,096, 2012	245,300, 2010	0	0	0	1	8	0

[1]Max AADT Counts – 2011 is the latest data available from CA DOT; traffic volumes in California have decreased avg. 1.1% from 2010.

[2]Two required beginning January 1, 2014.

[3]Two required sites to be active by January 1, 2014. See schedule in Recent or Proposed Changes to Network, Near Road Monitoring.

[4]One additional site per CBSA to be active by January 1, 2015. See schedule in Recent or Proposed Changes to Network, Near Road Monitoring.

Monitors required for SIP or Maintenance Plan: 15

Monitors Required for PAMS: 7

EPA Regional Administrator-required monitors per 40 CFR 58, Appendix D 4.3.4: 3

Table 20 Minimum Monitoring Requirements for SO2

(Note: Refer to section 4.4 of Appendix D of 40 CFR Part 58.)

CBSA	Counties	Total SO2[1] [tons/year]	Population Weighted Emissions Index[2] [million persons-tons per year]	#Active Near Road Monitors	#Required Area Wide Monitors	#Active Area Wide Monitors	#Additional Area wide Monitors Needed
31100	Los Angeles Orange	13,052,921, 2012	157,455	0	2	5	0
40140	San Bernardino Riverside	4,350,096, 2012	11,097	0	1	2	0

[1]Using latest NEI data 2008 Version 2, available on EPA website: http://www.epa.gov/ttn/chief/net/2008inventory.html
[2]Calculated by multiplying CBSA population and total SO2 and dividing product by one million.
Monitors required for SIP or Maintenance Plan: 7
EPA Regional Administrator-required monitors per 40 CFR 58, Appendix D 4.4.3: 0

Table 21 Minimum Monitoring Requirements for CO

(Note: Refer to section 4.2 of Appendix D of 40 CFR Part 58.)

CBSA	Population and Census Year	#Required Near Road Monitors[1]	#Active Near Road Monitors[2]	#Required Area Wide Monitors	#Active Area Wide Monitors
31100	13,052,921, 2012	0	0	0	17
40140	4,350,096, 2012	0	0	0	8

[1]Required beginning January 1, 2015
[2]Required sites to be active by January 1, 2015; to be implemented concurrently with near road NO2 sites.
Monitors required for SIP or Maintenance Plan: 25
EPA Regional Administrator-required monitors per 40 CFR 58, Appendix D 4.4.2: 0

Table 22a Minimum Monitoring Requirements for Pb at NCore

(Note: Refer to section 4.5 of Appendix D of 40 CFR Part 58.)

NCore Site (name, AQS ID)	CBSA	Population and Census Year	# Required Monitors	# Active Monitors	# Additional Monitors Needed
Los Angeles (Main Street) 060371103	31100	13,052,921, 2012	1	1	0
Rubidoux 060658001	40140	4,350,096, 2012	1	1	0

Table 22b Source Oriented Pb Monitoring (Including Airports)

(Note: Refer to section 4.5 of Appendix D of 40 CFR Part 58.)

Source Name	Address	Pb Emissions[1] (tons per year)	Emission Inventory Source[2] and Data Year	Max 3-Month Design Value[1] [ug/m3]	Design Value Date(third month, year)	# Required Monitors	# Active Monitors	# Additional Monitors Needed
Long Beach Airport Daugherty Field	4100 E Donald Douglas Dr, Long Beach, CA 90808	1.02528004	NEI 2008 Version 2	Unavailable	Unavailable	Pending 5 year assessment	0	1
Van Nuys Airport	16461 Sherman Way, Van Nuys, CA 91406	0.7659205	NEI 2008 Version 2	0.06	7; 2012	1	1	0
Exide Technologies	2700 S Indiana St, Vernon, CA 90058	0.511995	NEI 2008 Version 2	0.46	7; 2011	1	2	0
Trojan Battery	9440 Ann St., Santa Fe Springs, CA 90670	0.0177	NEI 2008 Version 2	0.11	4; 2011	0	1	0
Quemetco Inc.	720 S 7th Ave, City Of Industry, CA 91746	2.08123E-06	NEI 2008 Version 2	0.11	7; 2010	0	1	0
TAMCO	12459-B Arrow Route, Rancho Cucamonga, CA 91739	0.124448391	NEI 2008 Version 2	Unavailable	Unavailable	0	1	0

[1]Consider data from past three years.
[2]Data found at http://www.epa.gov/ttn/chief/net/2008inventory.html (5/1/2013)
Monitors Required for SIP or Maintenance Plan: 5
EPA Regional Administrator required monitors per 40 CFR 58, Appendix D 4.5(C) c: 0

Table 22c Minimum Monitoring Requirements for Pb Non Source Monitoring

(Note: Refer to section 4.5 of Appendix D of 40 CFR Part 58.)

CBSA	Population and Census Year	# Required Area Wide Monitors	# Active Area Wide Monitors	# Additional Monitors Needed
31100	13,052,921, 2012	0	5	0
40140	4,350,096, 2012	0	3	0

Table 23 Minimum Monitoring Requirements for PAMS

(Note: Refer to section 4.5 of Appendix D of 40 CFR Part 58.)

Area	Type	# Required PAMS Sites	# Active PAMS Sites	# PAMS Sites Needed
SCAQMD Monitoring Area	1 or 3	1	3	0
	2	1	4	0
	4	0	0	0
	Upper Air Meteorology	1	5	0

Table 24 Collocated Manual PM2.5, PM10, and Non-NCore Pb Networks

(Note: Refer to section 3.2.5, 3.3.5, 3.3.1, and 3.3.4.3 of Appendix A, 40 CFR Part 58.)

Pollutant	Method Code	# Primary Monitors	# Required Collocated Monitors	# Active Collocated Monitors
PM2.5 (RAAS)	120	20	3	3
PM10 (SSI Hi-Vol)	063	21	3	3
Pb (TSP Hi-Vol)	110 (Non Source)	8	1	2
Pb (Tsp Hi-Vol)	110 (Source)	5	1	1

Table 25 Collocated Automated (continuous) PM2.5 Network

(Note: Refer to section 3.2.5 & 3.3.5 of Appendix A, 40 CFR Part 58.)

Method Code[1]	# Primary Monitors	# Required Collocated Monitors	# Active Collocated Monitors
None	0	0	0

[1]No FEM PM2.5 BAMs are listed as primary monitors; therefore no collocation requirement exists but all are collocated with FRM monitors.

Data Submittal and Archiving Requirements

As required in 40 CFR 58.16(a), data has been reported via AQS including all ambient air quality data and associated quality assurance data for SO2, CO, O3, NO2, NO, NOy, NOX, Pb-TSP mass concentration, Pb-PM10 mass concentration, PM10 mass concentration, PM2.5 mass concentration, filter-based PM2.5 FRM/FEM field blank mass, sampler-generated average daily temperature, and sampler-generated average daily pressure, chemically speciated PM2.5 mass concentration data, PM10-2.5 mass concentration, meteorological data from NCore and PAMS sites, average daily temperature\average daily pressure for Pb sites and metadata records\information as specified by the AQS Data Coding Manual through December 31, 2012.

A data certification letter has been submitted to the EPA Regional Administrator certifying data collected at all SLAMS and at all FRM, FEM, and ARM SPM stations that meet criteria in appendix A, to part 58, for January 1 through December 31, 2012.

APPENDIX A

SCAQMD Network Depictions

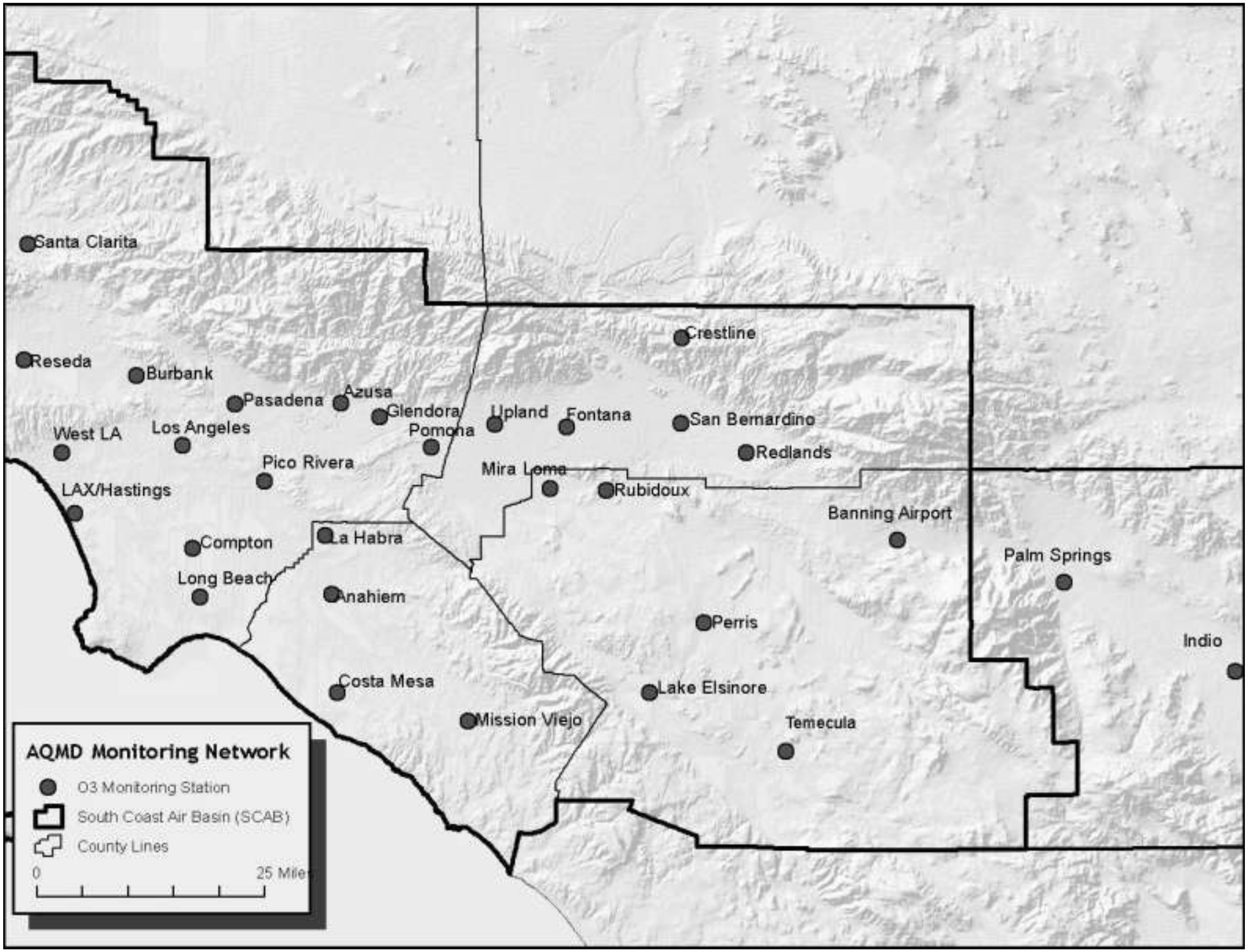


Figure 1 SCAQMD Ozone Monitoring Locations

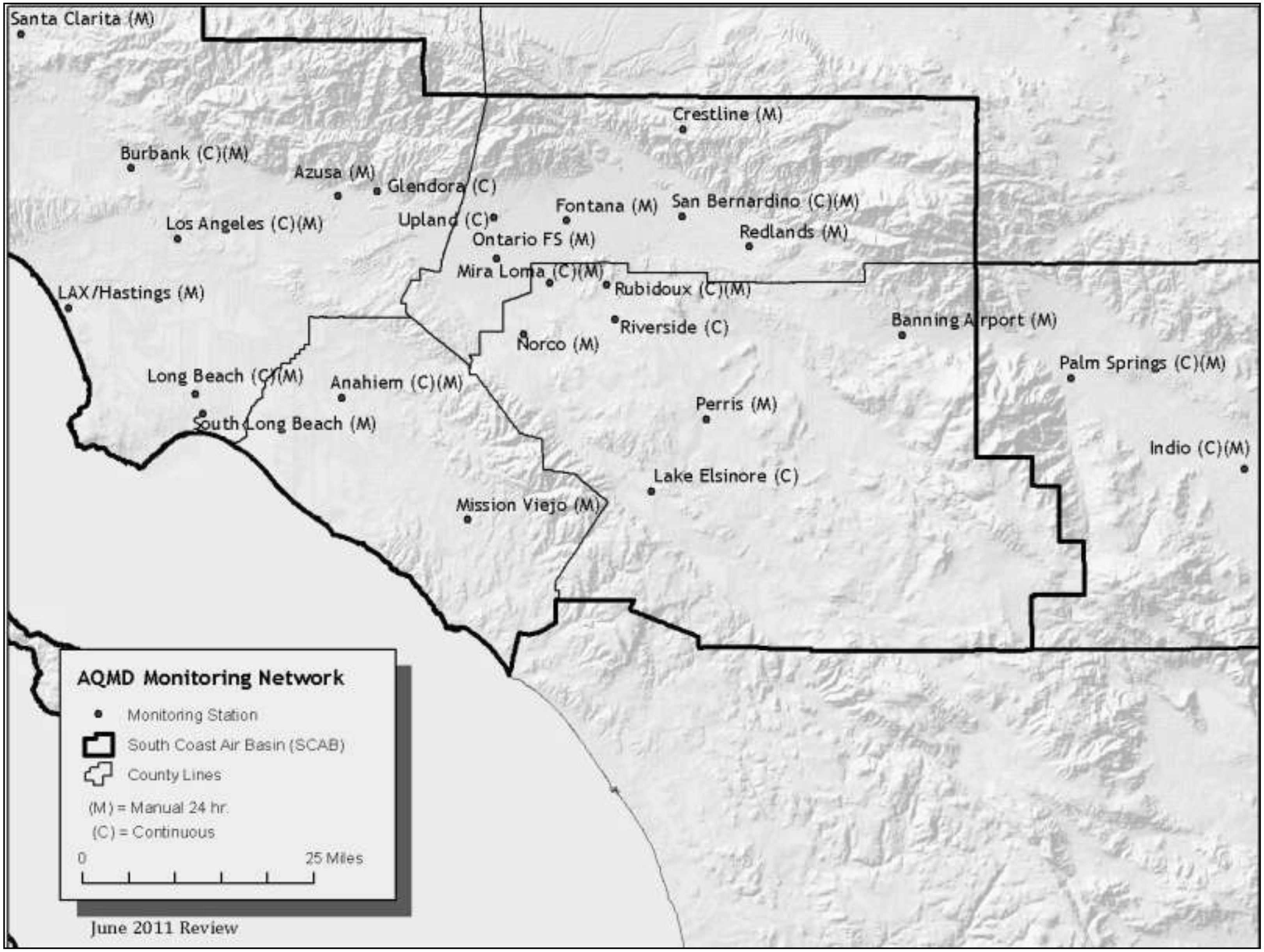


Figure 2 SCAQMD PM10 Monitoring Locations

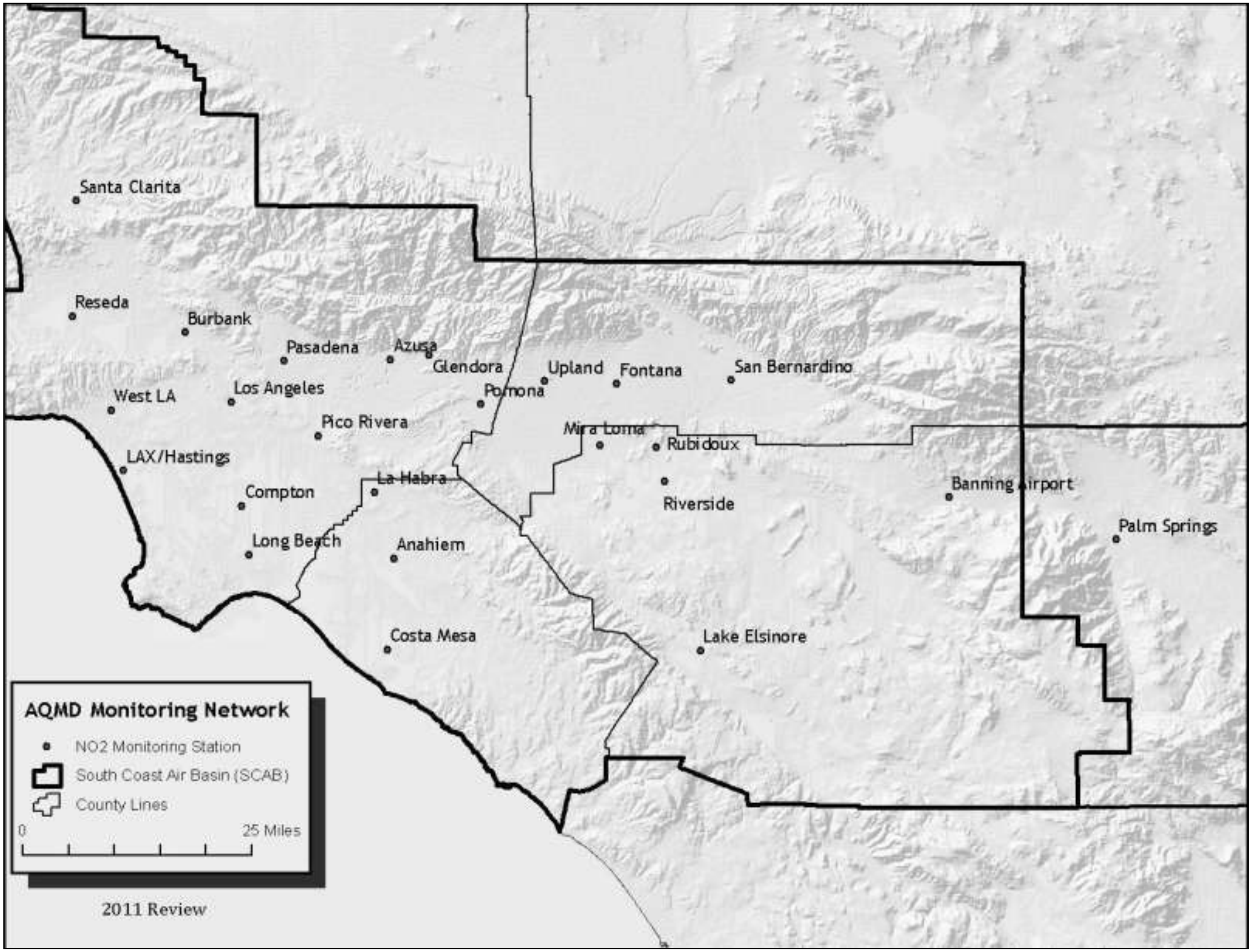


Figure 3 SCAQMD Monitoring Locations for Nitrogen Dioxide

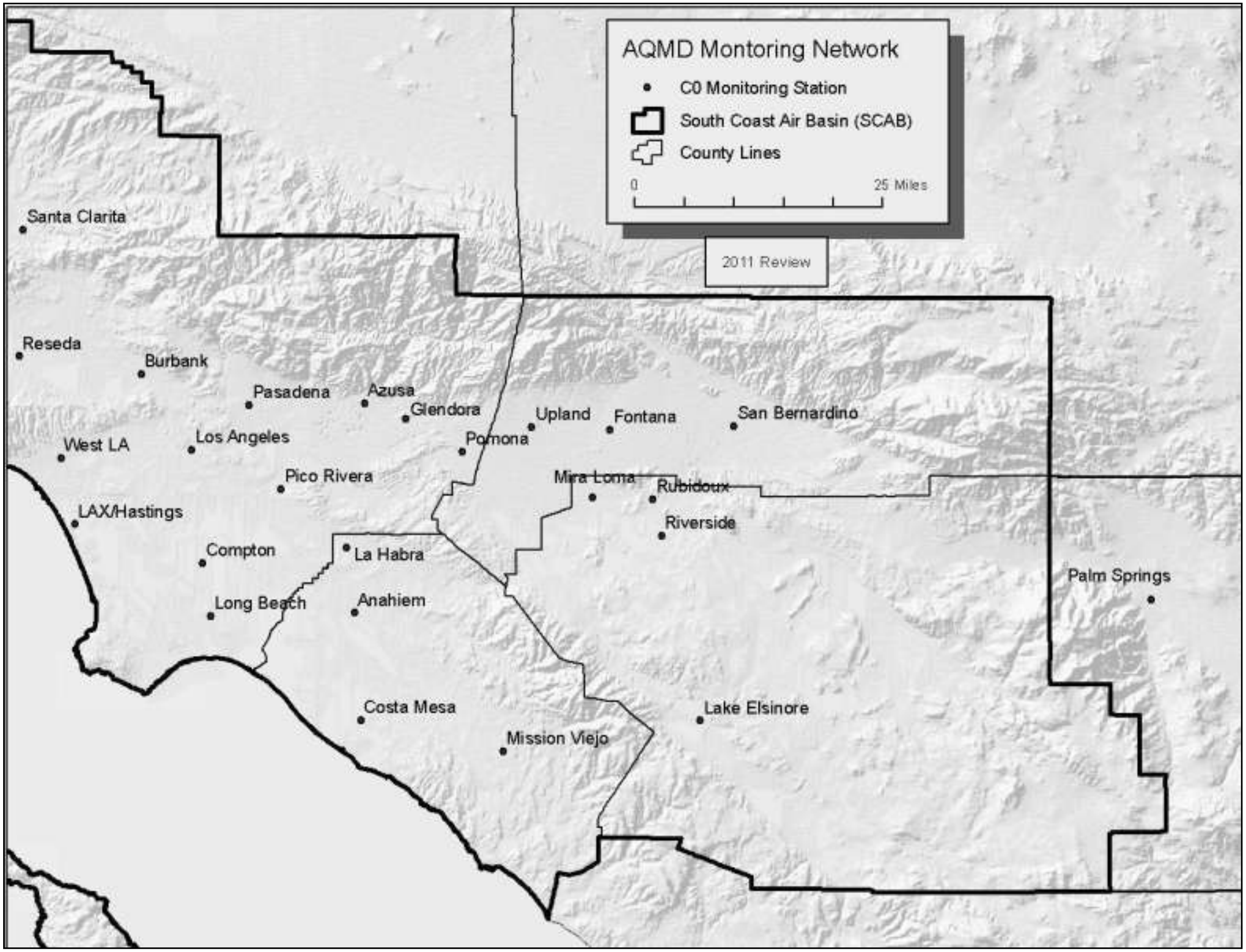


Figure 4 SCAQMD Monitoring Locations for Carbon Monoxide

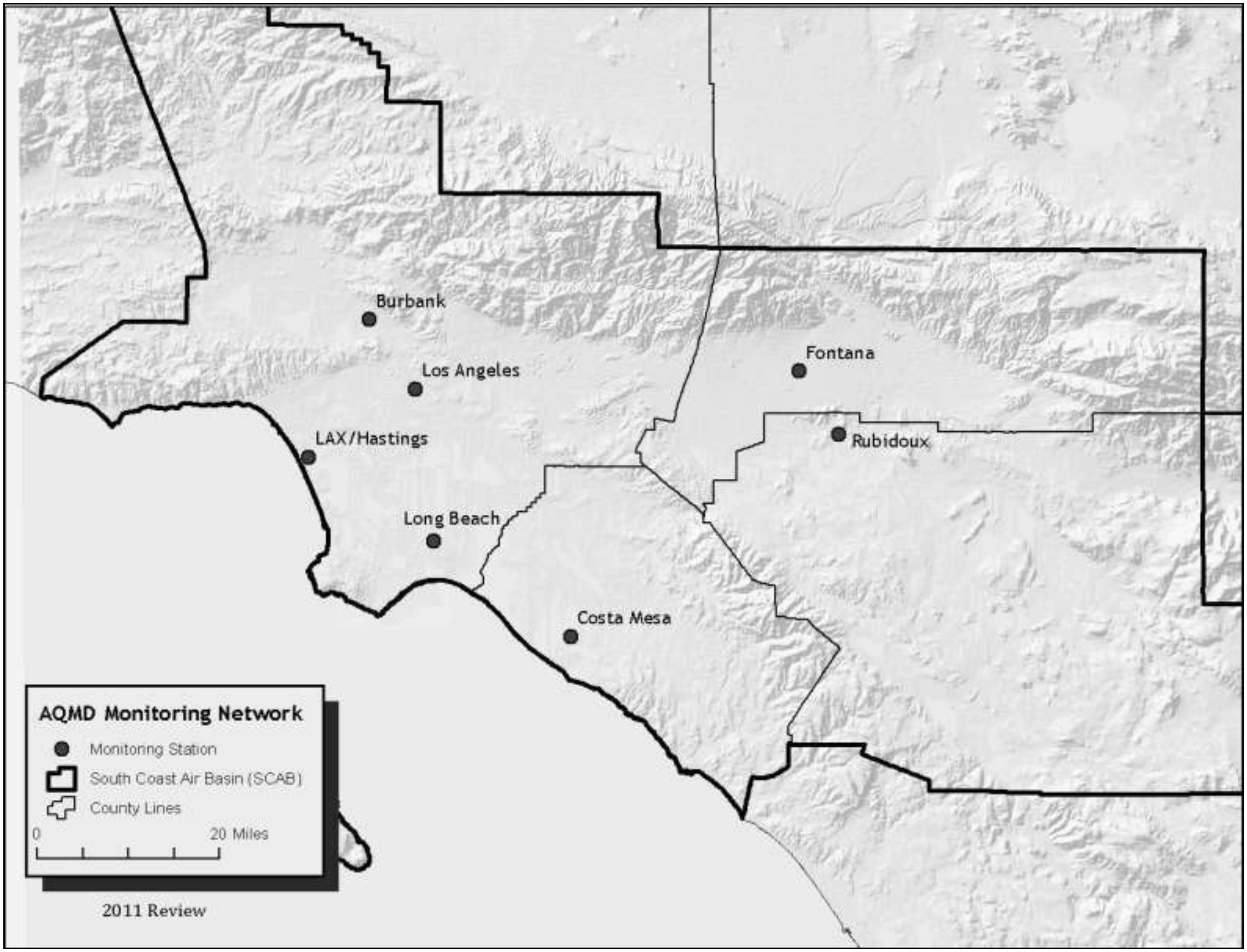


Figure 5 SCAQMD Monitoring Locations for Sulfur Dioxide

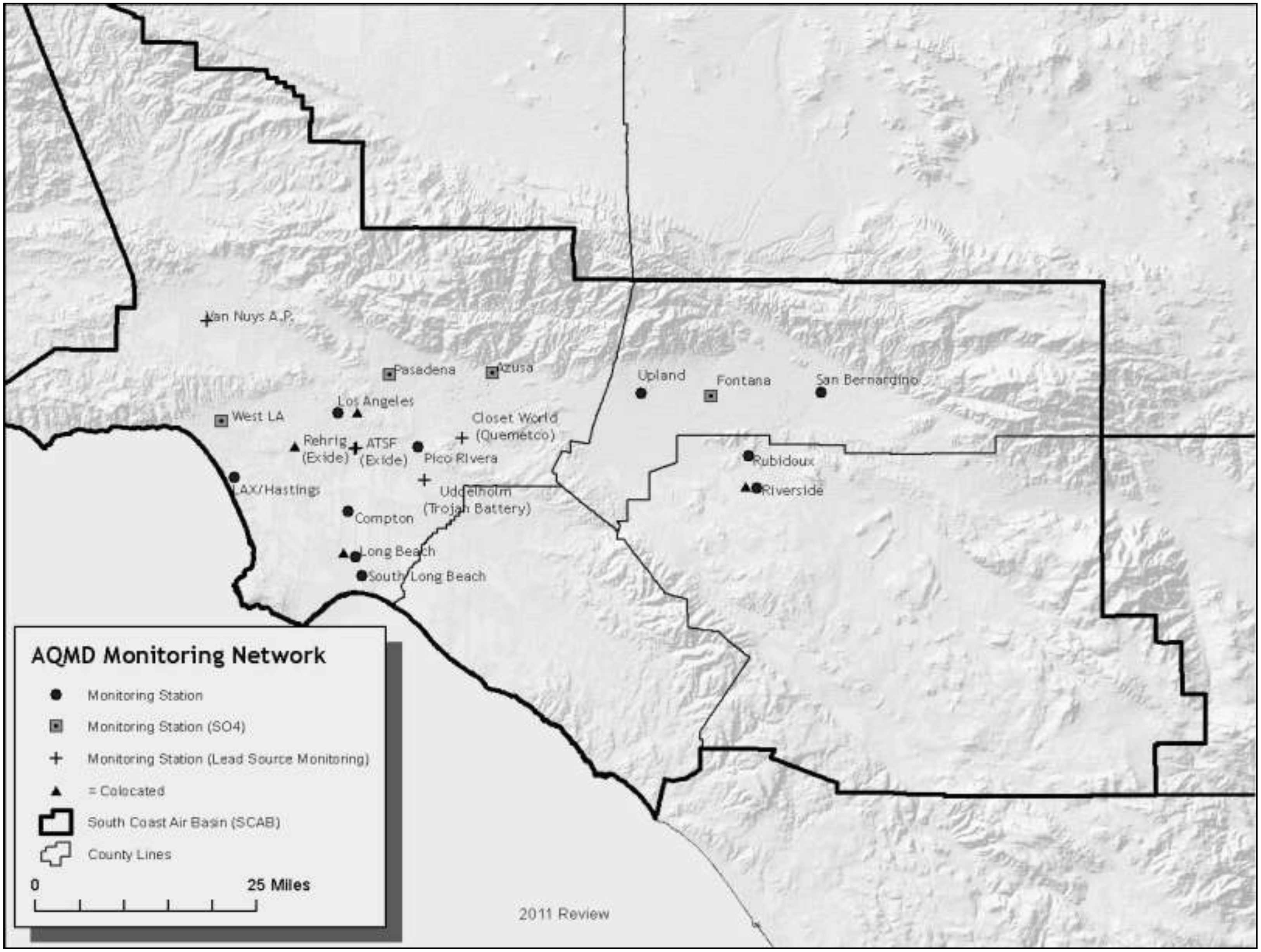


Figure 6 SCAQMD Source and Ambient Particulate Lead Monitoring Locations

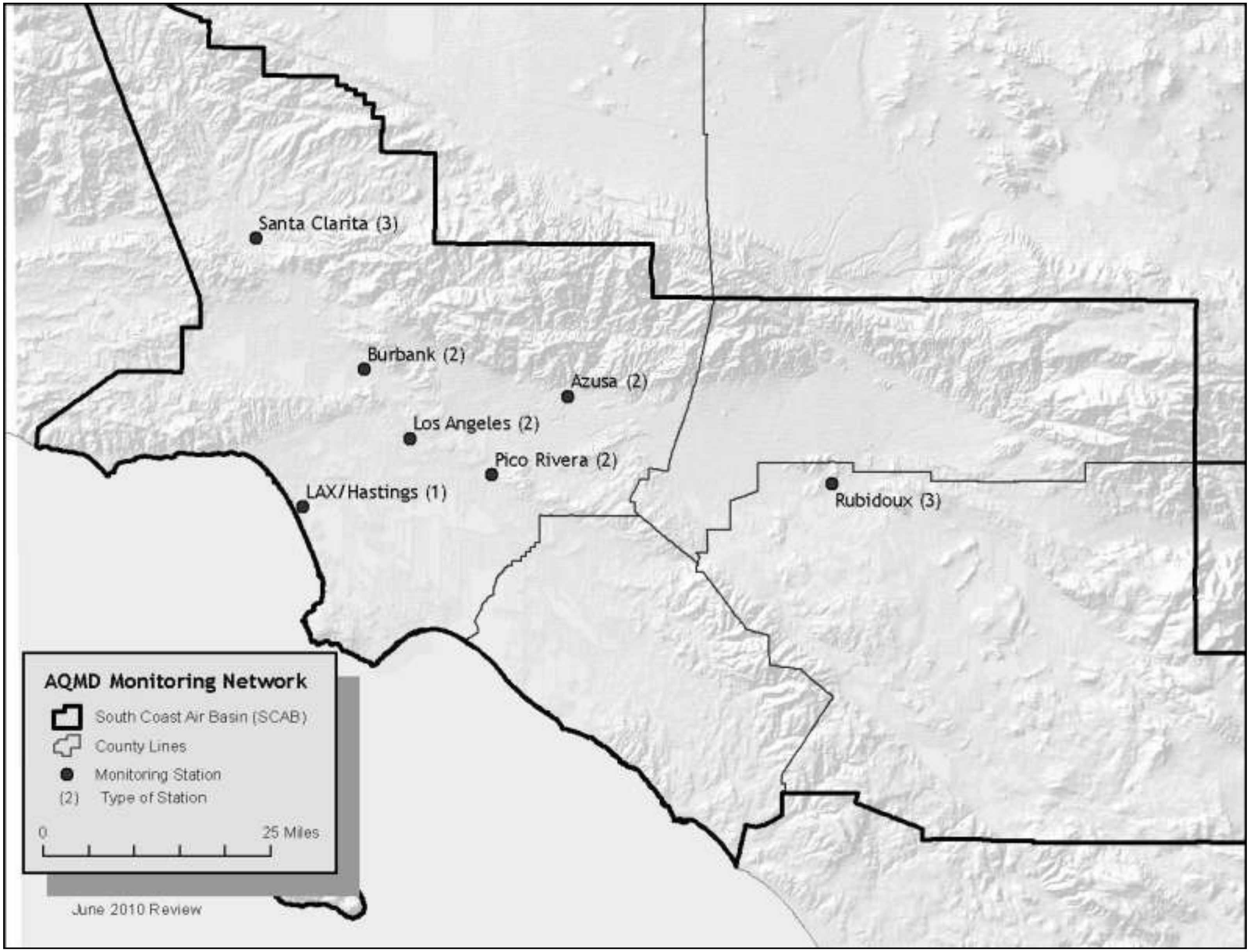
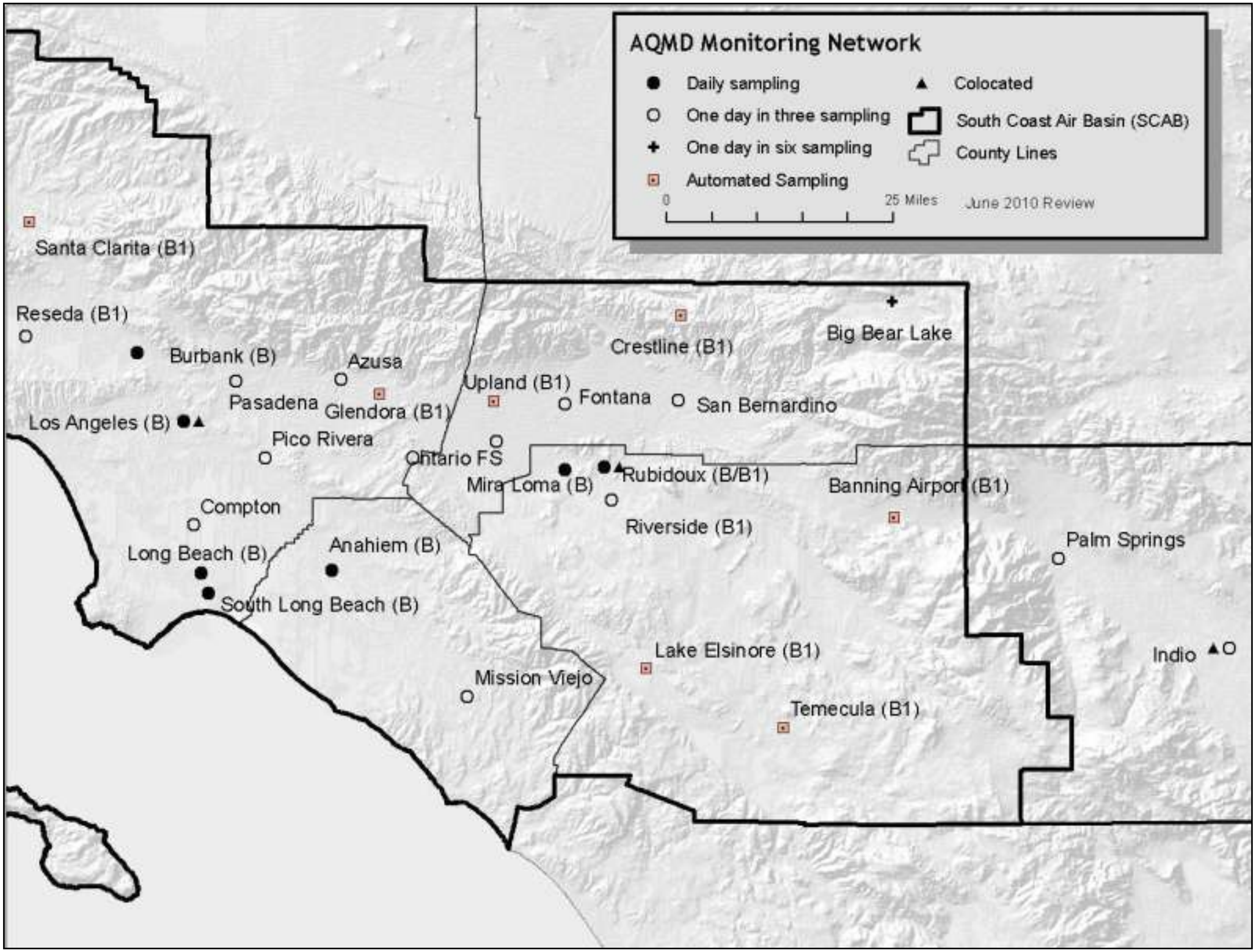


Figure 7 SCAQMD PAMS Monitoring Locations



B = BAM FEM
B1 = BAM

Figure 8 SCAQMD PM2.5 Monitoring Locations

APPENDIX B

Detailed Site Information

Detailed information for air monitoring locations are included in site reports. For information on monitoring objectives, purposes and scales, please refer to the main text of this plan.

- Anaheim
- ATSF (Exide)
- Azusa
- Banning Airport
- Big Bear
- Burbank
- Closet World (Quemetco)
- Compton
- Costa Mesa
- Crestline
- Fontana
- Glendora
- Indio
- La Habra
- Lake Elsinore
- LAX Hastings
- Long Beach North
- Long Beach South
- Los Angeles
- Mira Loma (Van Buren)
- Mission Viejo
- Norco
- Ontario Fire Station
- Palm Springs
- Pasadena
- Perris
- Pico Rivera #2
- Pomona
- Redlands
- Rehrig (Exide)
- Reseda
- Riverside
- Rubidoux
- San Bernardino
- Santa Clarita
- Temecula
- Uddelholm (Trojan Battery)
- Upland
- Van Nuys Airport
- West Los Angeles

Table 26 Selected POC, Parameter and Method Codes

Instrument	Pollutant	POC Code	Method Code	Parameter Code
910	NATTS VOCs	4	172	43218, 43372, 43505, 43551, 43552, 43802, 43803, 43804, 43815, 43817, 43824, 43829, 43843, 43860, 45109, 45201, 45202, 45203, 45204, 45220, 45805, 45807.
910	PAMS VOCs	2, 7, 2, or 8	126	43000, 43102, 43202, 43203, 43204, 43205, 43206, 43212, 43214, 43216, 43217, 43220, 43221, 43224, 43226, 43227, 43230, 43231, 43232, 43233, 43235, 43238, 43242, 43243, 43244, 43245, 43247, 43248, 43249, 43250, 43252, 43253, 43261, 43262, 43263, 43280, 43284, 43285, 43291, 43954, 43960, 45109, 45201, 45202, 45203, 45204, 45207, 45208, 45209, 45210, 45211, 45212, 45213, 45218, 45219, 45220, 45225.
ATEC 8000	PAMS Carbonyls	2 or 8	102	43502, 43503.
GMW 1200	PM10	1,2,4, or 6	063 or 102	81102, 85101, 82203, 82308, 82403.
Anderson RAAS	PM2.5 Particulate	1 or 2	780	68108, 68107, 68106, 68105, 68104, 68103, 68101, 68109, 68102
Anderson RAAS	PM2.5 Particulate	1 or 2	120	88101
Met One SASS	Speciated PM2.5	11 or 12	812	88301, 88306, 88302, 88403.
Met One SASS	Speciated PM2.5	11 or 12	810	68108, 68107, 68106, 68105, 68104, 68103, 88502.
Met One SASS	Speciated PM2.5	11 or 12	780	68101, 68109, 68102.
Met One SASS	Speciated PM2.5	11 or 12	811	88102, 88103, 88107, 88110, 88111, 88118, 88115, 88112, 88113, 88114, 88126,88128, 88132, 88134, 88136, 88152, 88180, 88176, 88154, 88165, 88168, 88169, 88160, 88161, 88179, 88164, 88183, 88167.
Met One SASS	Speciated PM2.5	11 or 12	816	88380, 88383, 88384, 88385, 88370, 88374, 88375, 88376, 88377.
Xontech 924	CR6	4 or 5	920	12115
Xontech 924	Carbonyls	4	102	43502, 43503.
Xontech 924	Metals	2 or 4	110	85102, 85103, 85105, 85110, 85128, 85132, 85136.

APPENDIX C

PM2.5 Continuous Monitor Comparability Assessment and Request for Waiver

Introduction

The SCAQMD monitoring program has historically operated PM2.5 continuous monitors primarily to support forecasting and reporting of the Air Quality Index (AQI). These monitors supply data every hour to update the AQI on our web site as well as national web sites such as AIRNow (www.airnow.gov). SCAQMD has been using these monitors since the early part of the last decade as we implemented the PM2.5 monitoring program. Over the last few years, a number of PM2.5 continuous monitors have been approved as Federal Equivalent Methods (FEMs). By utilizing an approved FEM, any subsequent data produced from the method may be eligible for comparison to EPA's health based standard known as the NAAQS. The primary advantage of operating a PM2.5 continuous FEM is that it can support the AQI, while also supplying data that are eligible for comparison to the NAAQS. Thus, a network utilizing PM2.5 continuous FEMs can potentially lower the number of filter-based FRMs operated in the network, which are primarily used for comparison to the NAAQS. These filter-based FRMs are resource intensive in that they require field operations as well as pre- and post-sampling laboratory analysis which results in data not being available for approximately 2-4 weeks after sample collection.

The SCAQMD monitoring program has been evaluating PM2.5 continuous FEMs over the past several years. Although the PM2.5 continuous FEMs are automated methods, these methods still require careful attention in their set-up, operation, and validation of data. Once enough data was collected, we began to evaluate the performance of these methods compared to collocated FRMs. That evaluation is explained further below and includes our request regarding the use of the data from these methods.

Request for Exclusion of PM2.5 Continuous FEM data from Comparison to the NAAQS

The network technical requirements for requesting exclusion of data from comparison to the NAAQS are identified in 40 CFR §58.11(e). These requirements refer to the performance criteria described in Table C-4 to subpart C of part 53. To accommodate the differences in how routine monitoring agencies operate their networks, several additional provisions are described in §58.11(e). When a topic is not addressed in §58.11(e), then the test specifications from table C-4 applies.

As shown in the Table below, the slope of the regression between collocated FRM and FEM measurements at the Anaheim, Burbank, Central Los Angeles, North Long Beach, South Long Beach, and Rubidoux (Cont POC 3) stations is higher than 1.1, which is outside the test specification indicated in §53 Table C-4 (i.e. slope = 1 ± 0.1). Although the slope criteria was met, the intercept of the regression relationship between FRM and FEM data at the Rubidoux (Cont POC 9) and Mira Loma monitoring sites does not meet the test specifications of between 15.05 - (17.32 × slope), but not less than -2.0; and 15.05 – (13.20 × slope), but not more than +2.0 (also indicated in §53 Table C-4).

Thus, in accordance with the PM NAAQS rule published on January 15th, 2013 (78 FR 3086) and specific to the provisions detailed in §58.10 (b)(13) and §58.11 (e), SCAQMD is requesting that data from the all of the SCAQMD FEM PM2.5 monitors be set aside for comparison to the NAAQS. While SCAQMD is working to optimize the monitoring instrumentation to meet all of our monitoring objectives, the performance is not yet at a point where the comparability of the PM2.5 continuous FEMs operated in our network compared to collocated FRMs is acceptable. After assessing the comparability of the PM2.5 FEMs to the collocated FRMs for our network, the sites listed below do not meet the comparability requirements. Detailed one-page assessments from which the information described below was obtained are included at the end of this section.

Table – Request for Exclusion of PM2.5 Continuous FEM Data

Site Name	City	Site ID	Cont POC	Cont Method Description	$PM_{2.5}$ Cont Begin Date	$PM_{2.5}$ Cont End Date	Continuous/ FRM Sampler Pairs Per Season	Slope (m)	Intercept (y)	Meets Bias Requirement	Correlation (r)
Sites with $PM_{2.5}$ continuous FEMs that are collocated with FRMs											
Anaheim	Anaheim	06-059-0007	3	Met-One BAM 1020 w/VSCC	01/01/2010	12/31/2012	Winter = 247 Spring = 269 Summer = 241 Fall = 244 Total = 1001	1.16	2.83	No	0.94
Burbank	Burbank	06-037-1002	3	Met-One BAM 1020 w/VSCC	01/01/2010	12/31/2012	Winter = 260 Spring = 211 Summer = 255 Fall = 244 Total = 970	1.14	3.81	No	0.91
Central Los Angeles	Los Angeles	06-037-1103	3	Met-One BAM 1020 w/VSCC	01/01/2009	09/29/2011	Winter = 226 Spring = 161 Summer = 170 Fall = 182 Total = 739	1.21	1.77	No	0.93
			9	Met-One BAM 1020 w/VSCC	10/01/2011	12/31/2012	Winter = 92 Spring = 76 Summer = 74 Fall = 142 Total = 384	1.11	5.33	No	0.81
North Long Beach	Long Beach	06-037-4002	3	Met-One BAM 1020 w/VSCC	01/01/2010	12/31/2012	Winter = 221 Spring = 231 Summer = 268 Fall = 249 Total = 969	1.16	1.67	No	0.93
South Long Beach	Long Beach	06-037-4004	3	Met-One BAM 1020 w/VSCC	01/01/2012*	12/31/2012	Winter = 72 Spring = 91 Summer = 57 Fall = 34 Total = 254	1.29	-0.48	No	0.96

Riverside/ Rubidoux	Rubidoux	06-065-8001	3	Met-One BAM 1020 w/PM2.5 SCC	01/01/ 2010	07/31/ 2011	Winter = 101 Spring = 57 Summer = 224 Fall = 264 Total = 646	1.19	0.51	No	0.90
			9	Met-One BAM 1020 w/VSCC	08/02/ 2011	12/31/ 2012	Winter = 88 Spring = 75 Summer = 127 Fall = 175 Total = 465	1.10	3.34	No	0.86
Mira Loma	Mira Loma	06-065-8005	3	Met-One BAM 1020 w/VSCC	01/01/ 2010	12/31/ 2012	Winter = 246 Spring = 248 Summer = 252 Fall = 268 Total = 1014	1.07	5.01	No	0.91

*2010 and 2011 data have not been submitted to AQS

Period of Exclusion of Data from the PM2.5 Continuous FEMs

The above table details the period of available data by monitor on which the request to exclude PM2.5 continuous FEM data is based. Per EPA Regional Office approval, these data will be entered into EPA's AQS database in a manner where the data are only used for the appropriate monitoring objective(s) (i.e., use data for just the AQI). Additionally, SCAQMD will continue to load any new data generated for the next 18 months (intended to represent the period until December 31 of 2014) in the same manner or until such time we request and receive approval from the EPA Regional Office to change the status of these monitors.

PM2.5 Continuous FEM data for Reporting the AQI

While the analysis supports the request for the monitors above not be used for comparison to the NAAQS, the data are of sufficient comparability to collocated FRMs that they be used for public AQI reporting. Therefore, with EPA Regional Office approval we will report these data on our web site and to AIRNow (www.airnow.gov). As such, data submitted to EPA's AQS database will be under "acceptable AQI" reporting (i.e., parameter code 88101) so that data users will know that these data are appropriate for use in AQI calculations, but not NAAQS comparison.

Assessments

The following one-page assessments are locations where our agency has collocated PM2.5 FRM and continuous FEM monitors. Each of these assessments is represented in the "**Table – Request for Exclusion of PM2.5 Continuous FEM Data"** above.

Anaheim

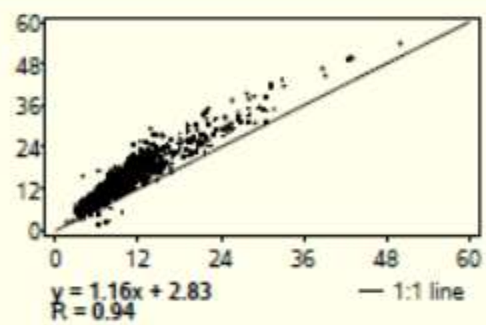
(FRM POC: 1; FEM POC: 3)

PM 2.5 Continuous Monitor Comparability Assessment

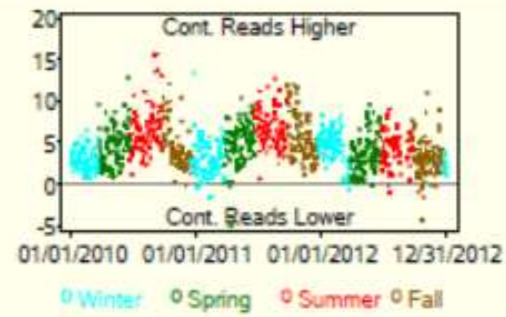
Site 06-059-0007: Anaheim, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

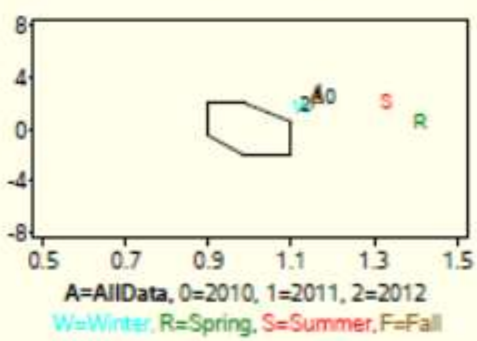
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



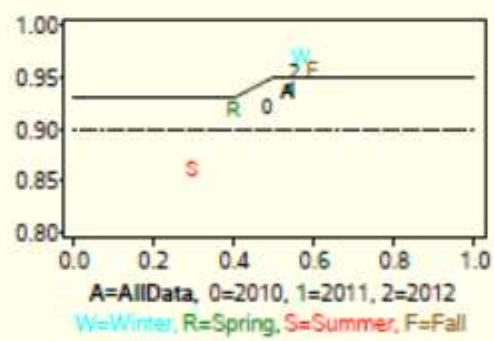
Cont. minus FRM PM 2.5 (µg/m³)



Additive (y) vs. Multiplicate (x) Bias



R (y) vs. FRM CCV (x)



Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**1001**	**10.7**	**15.3**	**1.42**
Winter	247	11.7	15.2	1.31
Spring	269	8.7	13.1	1.51
Summer	241	10.0	15.8	1.58
Fall	244	12.7	17.1	1.35
2010	328	10.2	14.9	1.46
2011	348	11.0	16.1	1.46
2012	325	11.0	14.8	1.35

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**1001**	**46.8**	**995**	**47.1**
Winter	247	35.7	246	35.3
Spring	269	51.8	264	53.3
Summer	241	59.4	241	59.4
Fall	244	40.0	244	40.0
2010	328	49.7	328	49.7
2011	348	51.7	344	52.8
2012	325	38.6	323	38.3

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

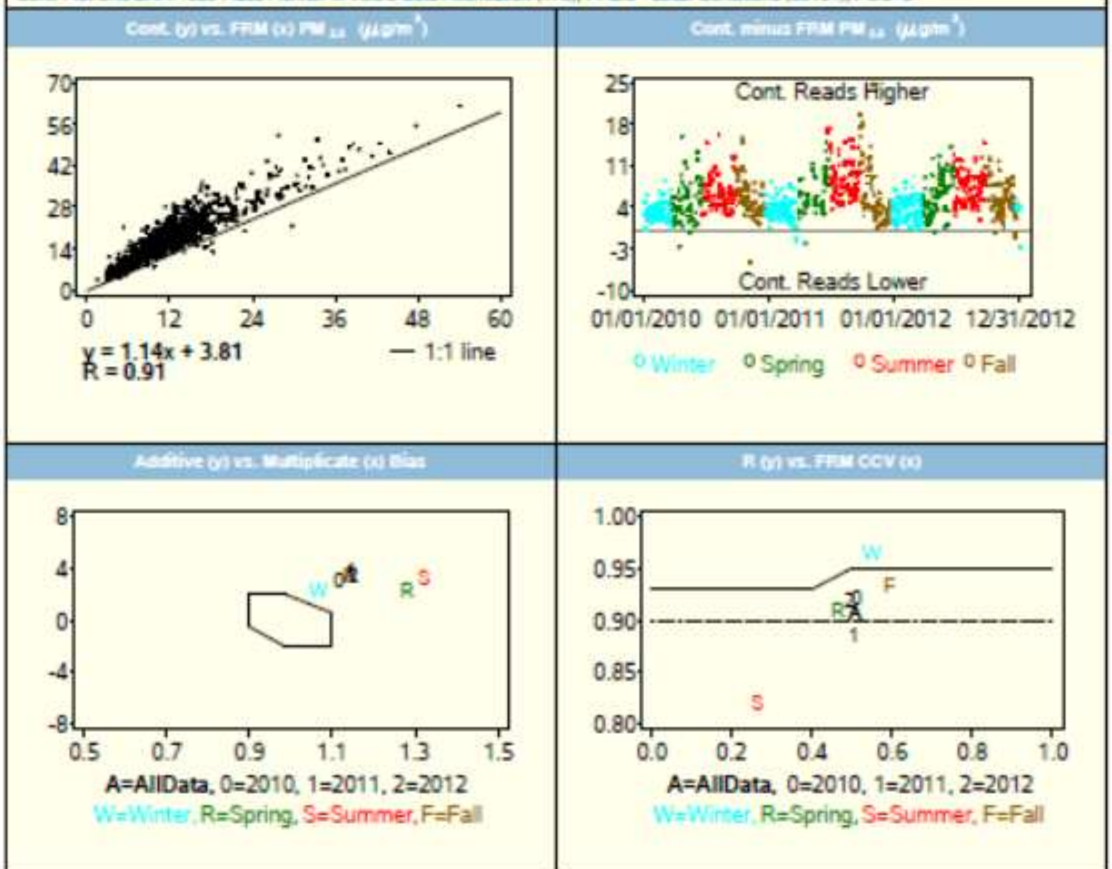
Burbank

(FRM POC: 1; FEM POC: 3)

$PM_{2.5}$ Continuous Monitor Comparability Assessment

Site 06-037-1002: Burbank, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3



Mean $PM_{2.5}$ (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	970	12.6	18.2	1.44
Winter	260	12.5	16.0	1.27
Spring	211	11.3	17.1	1.51
Summer	255	12.1	19.6	1.62
Fall	244	14.4	20.3	1.41
2010	319	12.5	17.5	1.40
2011	302	13.4	19.6	1.47
2012	349	12.1	17.8	1.47

Appendix A Statistics

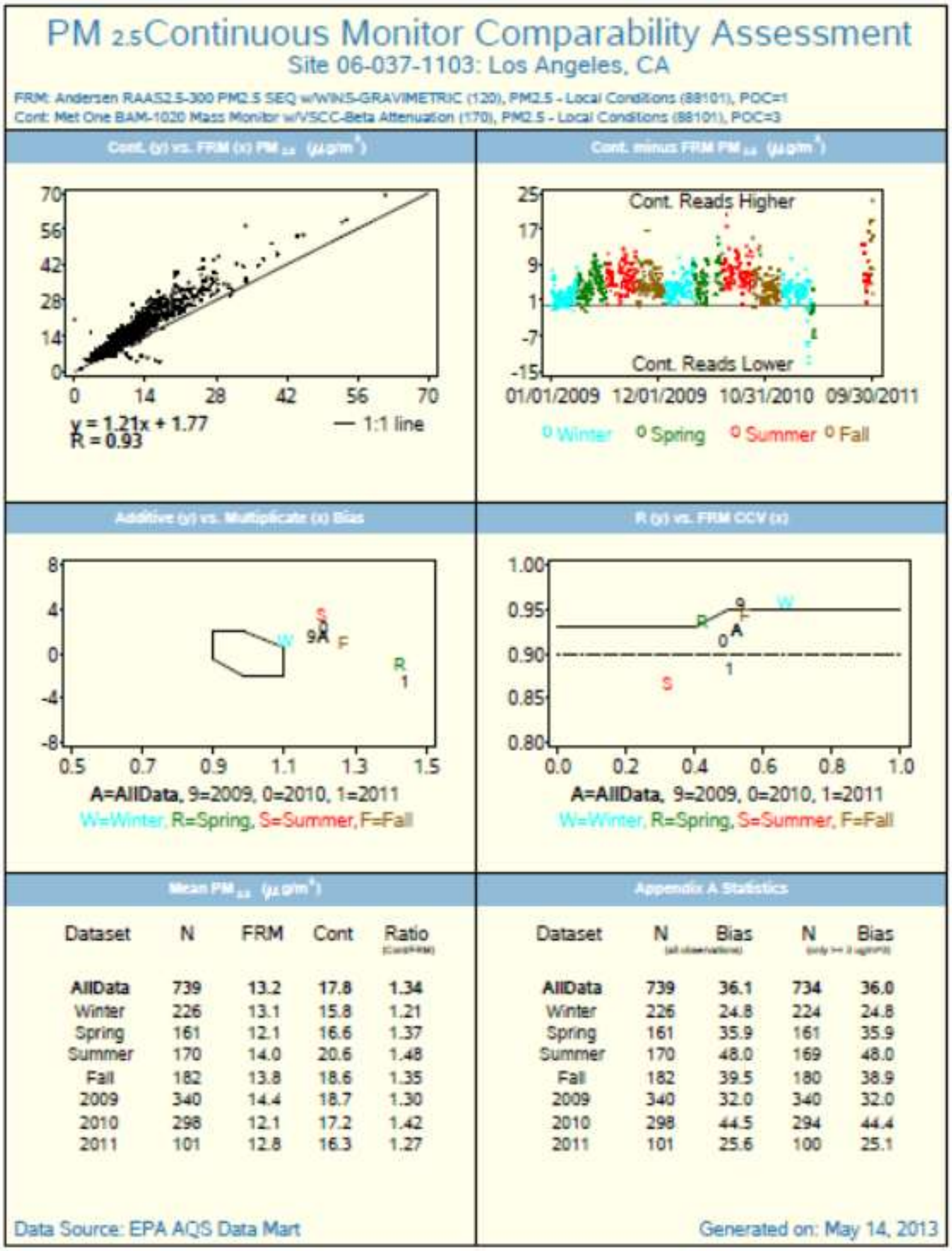
Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	970	50.0	967	49.8
Winter	260	33.3	258	32.7
Spring	211	55.1	211	55.1
Summer	255	63.6	255	63.6
Fall	244	49.3	243	49.1
2010	319	46.4	316	45.8
2011	302	52.1	302	52.1
2012	349	51.6	349	51.6

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

Central Los Angeles

(FRM POC: 1; FEM POC: 3)



Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	739	13.2	17.8	1.34
Winter	226	13.1	15.8	1.21
Spring	161	12.1	16.6	1.37
Summer	170	14.0	20.6	1.48
Fall	182	13.8	18.6	1.35
2009	340	14.4	18.7	1.30
2010	298	12.1	17.2	1.42
2011	101	12.8	16.3	1.27

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	739	36.1	734	36.0
Winter	226	24.8	224	24.8
Spring	161	35.9	161	35.9
Summer	170	48.0	169	48.0
Fall	182	39.5	180	38.9
2009	340	32.0	340	32.0
2010	298	44.5	294	44.4
2011	101	25.6	100	25.1

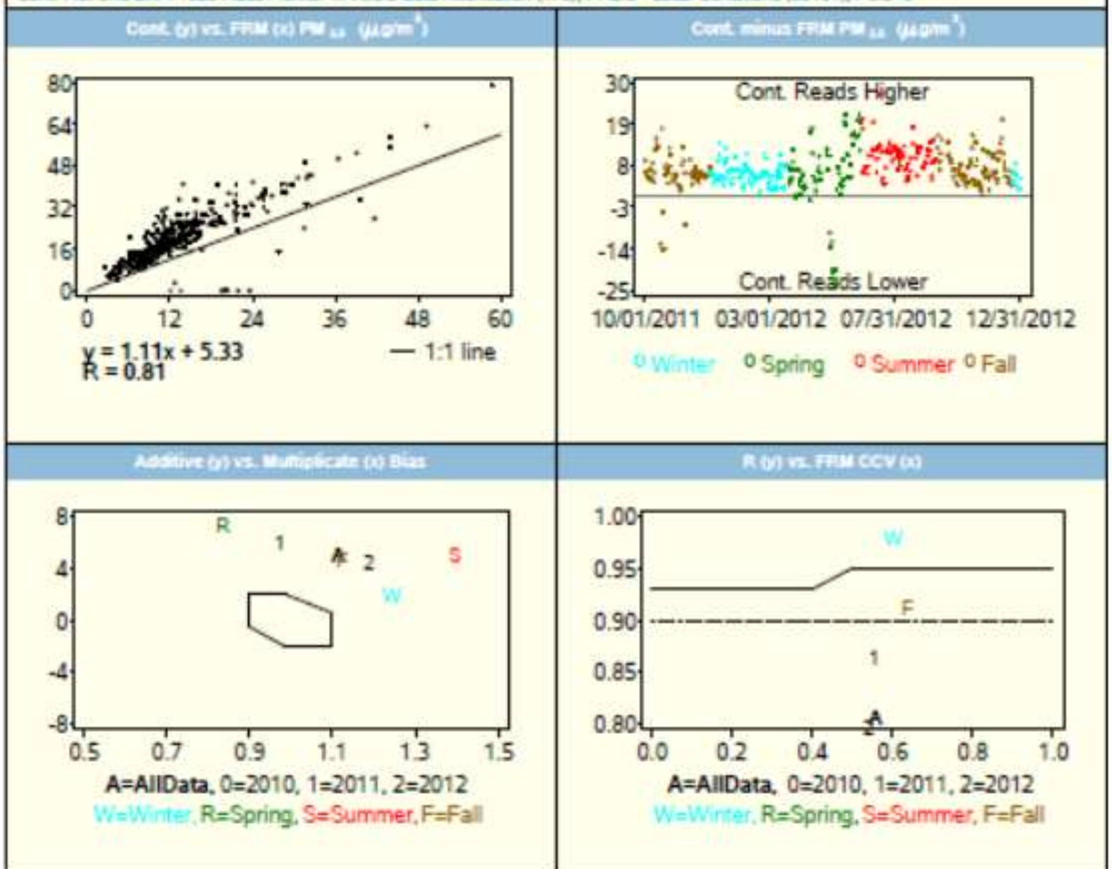
Central Los Angeles

(FRM POC: 1; FEM POC: 9)

PM 2.5 Continuous Monitor Comparability Assessment

Site 06-037-1103: Los Angeles, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=9



Mean PM 2.5 (µg/m3)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**384**	**13.4**	**20.3**	**1.51**
Winter	92	13.1	18.6	1.42
Spring	76	13.1	18.6	1.42
Summer	74	12.0	22.2	1.84
Fall	142	14.6	21.3	1.46
2010	0	.	.	.
2011	73	16.2	22.1	1.36
2012	311	12.8	19.9	1.55

Appendix A Statistics

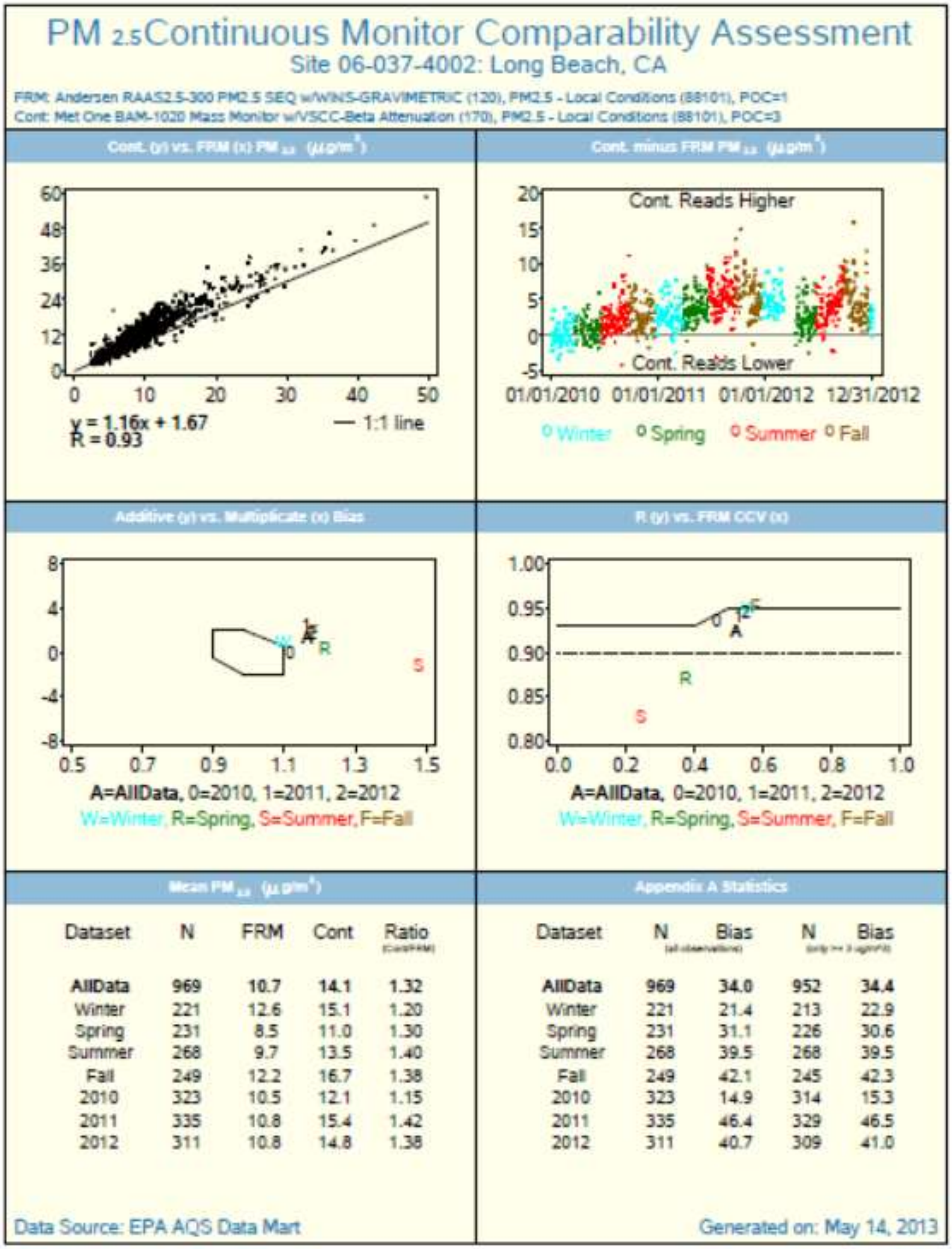
Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**384**	**59.7**	**374**	**62.5**
Winter	92	48.5	90	45.6
Spring	76	51.2	68	68.9
Summer	74	87.2	74	87.2
Fall	142	57.1	142	57.1
2010	0	.	.	.
2011	73	44.3	73	44.3
2012	311	63.3	301	66.9

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

North Long Beach

(FRM POC: 1; FEM POC: 3)



Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**969**	**10.7**	**14.1**	**1.32**
Winter	221	12.6	15.1	1.20
Spring	231	8.5	11.0	1.30
Summer	268	9.7	13.5	1.40
Fall	249	12.2	16.7	1.38
2010	323	10.5	12.1	1.15
2011	335	10.8	15.4	1.42
2012	311	10.8	14.8	1.38

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**969**	**34.0**	**952**	**34.4**
Winter	221	21.4	213	22.9
Spring	231	31.1	226	30.6
Summer	268	39.5	268	39.5
Fall	249	42.1	245	42.3
2010	323	14.9	314	15.3
2011	335	46.4	329	46.5
2012	311	40.7	309	41.0

South Long Beach

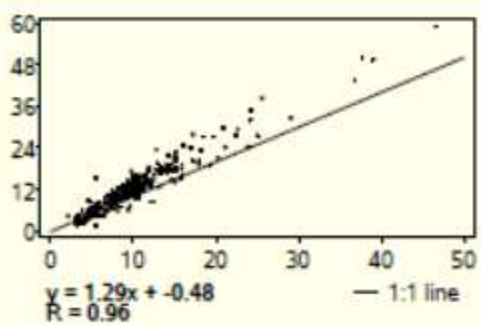
(FRM POC: 1; FEM POC: 3)

PM 2.5 Continuous Monitor Comparability Assessment

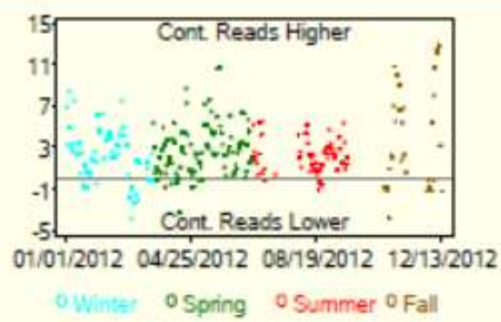
Site 06-037-4004: Long Beach, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=3

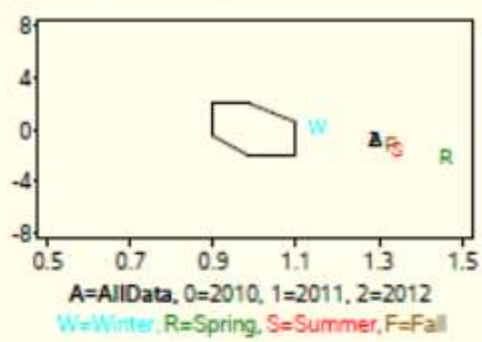
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



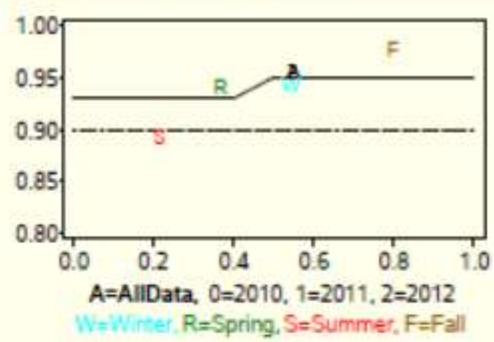
Cont. minus FRM PM 2.5 (µg/m³)



Additive (y) vs. Multiplicate (x) Bias



R (y) vs. FRM CCV (x)



Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**254**	**10.7**	**13.3**	**1.25**
Winter	72	11.0	13.2	1.20
Spring	91	9.9	12.7	1.29
Summer	57	9.5	11.7	1.22
Fall	34	14.1	17.9	1.27
2010	0	.	.	.
2011	0	.	.	.
2012	254	10.7	13.3	1.25

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**254**	**22.8**	**248**	**23.7**
Winter	72	20.1	71	21.3
Spring	91	26.0	91	26.0
Summer	57	21.7	57	21.7
Fall	34	22.1	29	26.1
2010	0	.	.	.
2011	0	.	.	.
2012	254	22.8	248	23.7

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

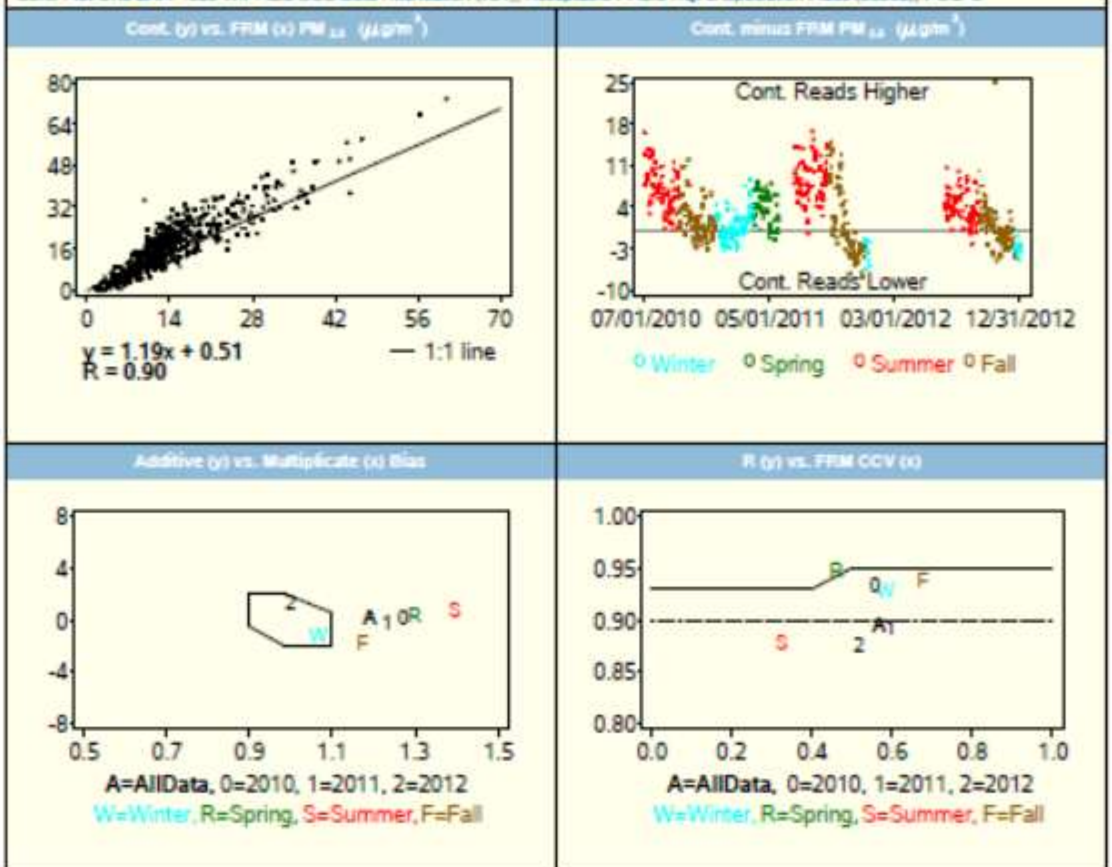
Rubidoux

(FRM POC: 1; FEM POC: 3)

PM 2.5 Continuous Monitor Comparability Assessment

Site 06-065-8001: Rubidoux, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met-One BAM-1020 W/PM2.5 SCC-Beta Attenuation (731), Acceptable PM2.5 AQI & Speciation Mass (88502), POC=3



Mean PM 2.5 (µg/m3)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**646**	**13.7**	**16.9**	**1.23**
Winter	101	11.7	11.6	0.99
Spring	57	10.3	14.2	1.38
Summer	224	14.1	20.7	1.47
Fall	264	14.9	16.2	1.08
2010	173	14.0	18.3	1.31
2011	299	13.5	16.8	1.24
2012	174	13.9	15.7	1.12

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**646**	**18.9**	**607**	**23.9**
Winter	101	-9.2	87	2.5
Spring	57	37.2	56	38.4
Summer	224	46.4	224	46.4
Fall	264	2.2	240	7.3
2010	173	27.2	163	30.3
2011	299	17.9	277	25.2
2012	174	12.2	167	15.4

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

Rubidoux

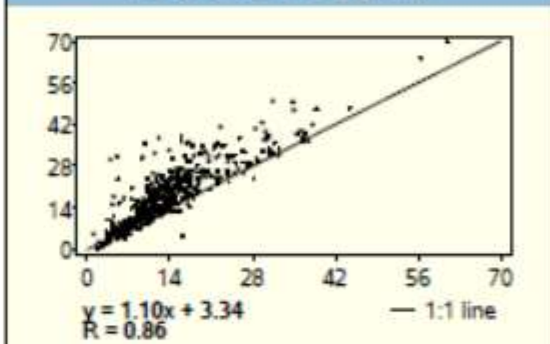
(FRM POC: 1; FEM POC: 9)

PM 2.5 Continuous Monitor Comparability Assessment

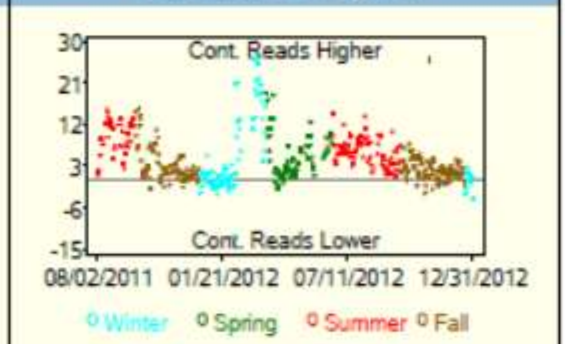
Site 06-065-8001: Rubidoux, CA

FRM: Andersen RAAS2.5-300 PM2.5 SEQ w/WINS-GRAVIMETRIC (120), PM2.5 - Local Conditions (88101), POC=1
Cont: Met One BAM-1020 Mass Monitor w/VSCC-Beta Attenuation (170), PM2.5 - Local Conditions (88101), POC=9

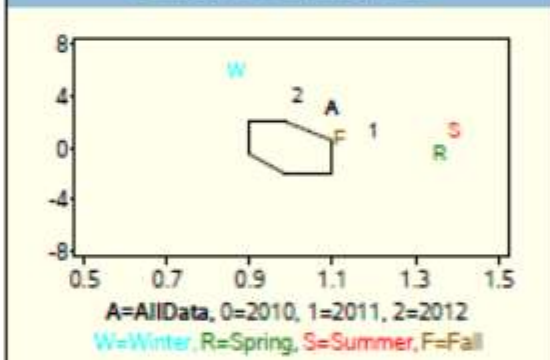
Cont. (y) vs. FRM (x) PM 2.5 (µg/m³)



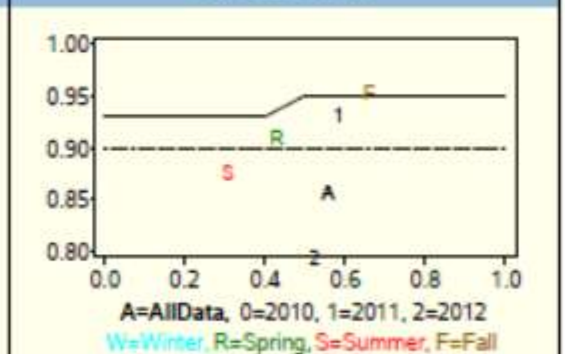
Cont. minus FRM PM 2.5 (µg/m³)



Additive (y) vs. Multiplicate (x) Bias



R (y) vs. FRM CCV (x)



Mean PM 2.5 (µg/m³)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**465**	**14.4**	**19.1**	**1.33**
Winter	88	12.5	17.0	1.37
Spring	75	14.8	20.0	1.35
Summer	127	13.5	20.5	1.52
Fall	175	15.7	18.7	1.19
2010	0	.	.	.
2011	140	16.3	21.3	1.30
2012	325	13.5	18.2	1.34

Appendix A Statistics

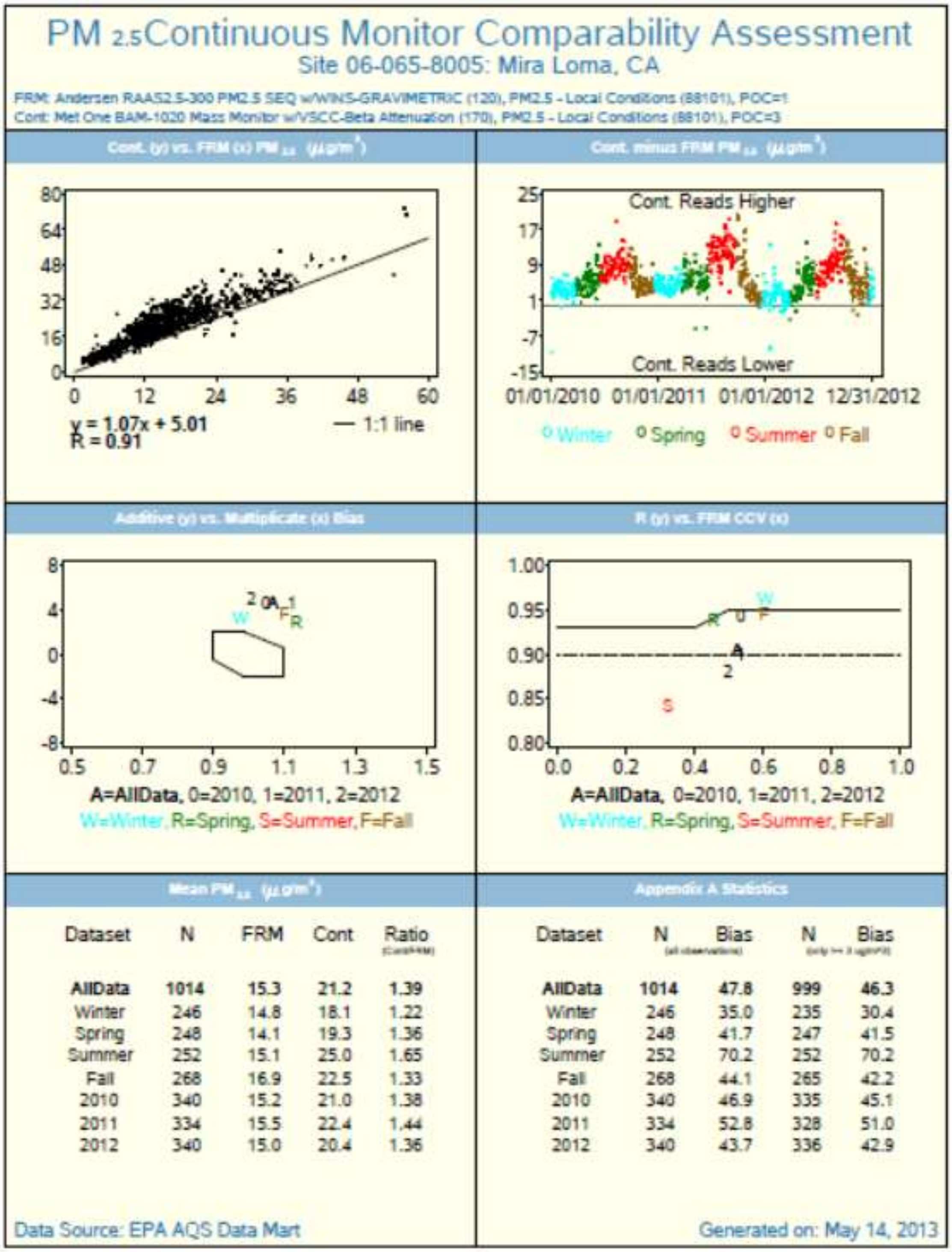
Dataset	N	Bias	N	Bias
AllData	**465**	**38.8**	**456**	**39.5**
Winter	88	55.2	81	63.7
Spring	75	34.3	75	34.3
Summer	127	52.5	127	52.5
Fall	175	22.4	173	20.7
2010	0	.	.	.
2011	140	29.7	139	30.4
2012	325	42.6	317	43.4

Data Source: EPA AQS Data Mart

Generated on: May 14, 2013

Mira Loma

(FRM POC: 1; FEM POC: 3)



Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**1014**	**15.3**	**21.2**	**1.39**
Winter	246	14.8	18.1	1.22
Spring	248	14.1	19.3	1.36
Summer	252	15.1	25.0	1.65
Fall	268	16.9	22.5	1.33
2010	340	15.2	21.0	1.38
2011	334	15.5	22.4	1.44
2012	340	15.0	20.4	1.36

Dataset	N (all observations)	Bias	N (only >= 3 ug/m3)	Bias
AllData	**1014**	**47.8**	**999**	**46.3**
Winter	246	35.0	235	30.4
Spring	248	41.7	247	41.5
Summer	252	70.2	252	70.2
Fall	268	44.1	265	42.2
2010	340	46.9	335	45.1
2011	334	52.8	328	51.0
2012	340	43.7	336	42.9